K Ramsay (A.)

REFERENCES

OF THE

ANATOMICAL PAINTINGS

AND

PREPARATIONS:

AT THE

ANATOMICAL ROOMS,

SURGEONS SQUARE,

EDINBURGH.

by Ramsay

EDINBURGH:
PRINTED BY J. MOIR, PATERSON'S COURT.

1799.

BRITISH MUSEUM

INTRODUCTION.

I HAVE been induced to adopt the plan according to which this book of References is arranged, as well from a conviction of its advantage to the Student, as by the approbation it has received from ſeveral Gentlemen of genius and extenſive Anatomical knowledge, whom I have conſulted relative to its practical utility. Hitherto I have been obliged to defer the execution, from want of leiſure, and it has been only during a few weeks of receſs from public duties, that I have been able to reduce it to its preſent form. My anxiety to facilitate the ſtudy of an important and complicated ſcience, and the aſſiſtance which I have had frequent occaſion to obſerve, might be derived in the Diſſecting Room, from a few plain practical directions, have led me rather to ſacrifice my own feelings, however they may ſuffer from a haſty performance of this kind, than to defer what I hope may be found uſeful, even in its preſent form, 'till more time and attention than I can ſpare from my preſent occupations, would allow me to give it one more perfect. It is intended principally for the uſe of thoſe Gentlemen who attend my Rooms, and from their candour and liberality, I may hope every indulgence for ſuch errors as have unavoidably crept into it, from the hurry in which it has been prepared for the Preſs. Theſe inaccuracies, however, cannot materially affect the Student, when it is recollected that the book is deſigned to be uſed chiefly under my own eye, and that if any error of moment ſhould have eſcaped me, which I truſt is not often the caſe, it can readily be corrected under my own inſpection. With regard to the ſtile, it may poſſibly appear rather too laconic, but I hope that it is alſo ſufficiently clear; it was neceſſary, in conformity to the general plan, ſtudiouſly to avoid redundancy, and to compriſe every thing which was thought really uſeful, in as few words as would convey clear ideas, in order to reduce the price of the book as low as poſſible. Some explanation of the plan which has been adopted, will be thought neceſſary, and it is ſhortly as follows: In the OSTEOLOGY, the general ſhape of each bone, its particular ſituation in the Skeleton, office, parts, and Muſcles connected with it, are referred to; the parts, or proceſſes, are denoted by Letters; the ſituation of the Muſcles by Numbers; and the ſame number which points out the place of a Muſcle in the bone, refers to the ſame Muſcle in the Drawings and Preparations.—Thus the Deltoid, which is marked (2) in the Drawings and Preparations, is connected with 3 bones, the Scapula, Clavicle, and Os Humeri; the particular parts of theſe bones, occupied by this Muſcle, have the figure (2) marked on them. After the deſcription of every Bone, the Muſcles connected with it, together with their Origin, or Inſertions, are enumerated, and the particular portions to which they are attached, are ſpecified in the Margin. In enumerating, for inſtance, the Muſcle connected with the Os Sphenoides, oppoſite *Temporalis*, in the Margin, will be found *Temp.* proceſs. There are alſo ſections of various bone, in order that Gentlemen may attend to their compoſition and ſtructure. The Drawings, which are frequently referred to, are fair repreſentations of the diſſected Human Body: and by their colouring, render the detection of the different parts, as they occur in Diſſection, extremely eaſy. In referring to the Muſcles, the Plate, Figure, and Number, which points them out, are placed after the name of each Muſcle in the Margin; and, in deſcribing them, I have, for the reaſon already aſſigned, uſed the Initial Letter only, of words, which, on account of their frequent occurrence in Anatomical language, are eaſily underſtood. The words, *Ariſe*, *Inſerted*, *Fleſhy*, *Tendinous*, *Uſe*, connected with every Muſcular deſcription, are expreſſed by the ſingle letters, *A. I. F. T. U.* It will be obſerved, that I have endeavoured to claſs the Muſcles according to the ſimilarity of office; and, in purſuance of this plan, it has become neceſſary in ſome caſes to mention Muſcles which are deep ſeated, previous to the ſuperficial ones which cover them; but, as theſe ſuperficial Muſcles are alſo arranged according to their action, as Supinators, Rotators, Extenſors, &c.—when they occur in Diſſection, being carefully diſſected, they may be cut through the middle, their Origins and Inſertions left entire, and folded back to ſhew thoſe beneath :—We may thus, without confuſion, and it is hoped with advantage, purſue the Muſcles which are connected by ſimilarity of office, and the ſuperficial Muſcles which were raiſed, can be returned to their places, when they come to be conſidered in their turn. The ſtudent will, by this means, become acquainted with the Muſcles, both as Bodies diſtributed in layers, and as Agents in ſimilar or opponent offices; which laſt arrangement would appear to be preferable for its ſimplicity, the eaſe with which it may be recollected, and for the immediate idea it conveys of their uſe.

Before the deſcription of each Muſcle, I have endeavoured, in as few words as poſſible, to give an idea of its ſhape and relative ſituation; the laſt, a circumſtance which ſhould be carefully attended to in ſtudying the Muſcles; but the origins or inſertions into particular parts of a Bone, it was not thought neceſſary to enumerate at large, as this had been done accurately in the Oſteology, by recurring to which, the exact Origin or Inſertion of any Muſcle can be readily found. In referring to the Veſſels, the plan of the great Trunks only is attended to, as the young Anatomiſt may, by his attention, trace the branches to the Muſcles, which are referred to likewiſe, and as ſuch attention is highly impreſſive, I have with this view avoided remarking the diſtances of important parts of Bones from each other, Muſcular ſituations, Vaſcular and Nervous diſtributions, &c.

It may be proper to offer here a few remarks on Diſſection, and its motives.

METHOD and CLEANLINESS are objects peculiarly neceſſary in this department of Science,—and the young Anatomiſt ſhould never forget, that the arrangement of the parts of an Animal Body is ſo complicated, as to elude us in Diſſection, without a ſteady plan and attention. I ſhall explain myſelf more clearly on this point:—Every ſtep ought to be purſued, in a manner, the moſt likely, to enſure celerity in our operation, and perſpicuity with reſpect to the objects meant to be diſcovered; every inciſion to be made by the knife, ſhould be conſidered before we begin, and the effects of the inciſion noticed, whether it has anſwered the great object of our enquiry;—when the Integuments are to be cut into, the particular part muſt be adverted to, that we may recollect the depth of the Corpus Adipoſum; that the inſtrument may at once bring into view the Muſcular Fibres, Superficial Veſſels, Nerves, or Faſcia, intended to be ſhewn. And, in the Diſſecting Room, gentlemen ſhould make it their buſineſs, to notice, the great varieties taking place in the ſtate of the Cuticula, Cutis Vera, Corpus Adipoſum, Veſſels, &c. in various ſubjects. In Diſſection, the direction of the Fibres of our firſt inciſion ſhould be made in the courſe of ſome leading Muſcle, and the Integuments removed in a direction parallel to that inciſion:—every part ſhould be diſſected in this manner, the Knife always laying the whole in view from one end to the other of the Muſcle; the reaſon of this is—that an inciſion in the courſe of the fibres is ſcarcely diſcernible, but, upon cutting acroſs the fibres, a contraction immediately takes place, which looks awkward. There is a particular ſlight in diſſecting with rapidity and elegance, not ſo eaſily deſcribed, as ſhewn in practice. The art conſiſts in at once making the parts completely clear, when we are to raiſe the integuments from a Muſcle or Veſſels, &c. The knife is to be dextrouſly paſſed along the very ſubſtance to be preſerved, and yet that ſubſtance not touched; the knife, in ſuch delicate caſes, muſt have its ſharp point or edge (which ever of theſe are moſt adapted for the purpoſe intended) directed ſo, as to move from the part to be preſerved, towards that to be removed, by which means, the knife, in its progreſſive motion, while it frees and expoſes the body intended to be ſhewn, it at the ſame time avoids injuring it.

Another great object in Diſſection, is, to acquire a correct notion of exact relative ſituation; for the intention of Diſſection would ſeem to be, to expoſe hidden parts, with a view to become ſo familiarly acquainted with them, as to transfer our ideas of their ſituation to their entire connected ſtate in a living body; therefore, the very quantities of fat, faſcia, every little Gland, Veſſel, and Nerve, ought to be attended to, and recollected in its place;—and ſince, after a fine Diſſection, the body is no longer what it was in an entire ſtate, we have removed innumerable portions of different ſubſtances, all of which ought to compoſe our notions of the true appearances and component parts of the whole; on this account, we muſt attend to every ſtage; and in removing parts indiſpenſibly, yet, previous to the neceſſary removal of ſuch parts, notice their ſituation, quantity, and uſe: no Muſcle or Veſſel, &c. ought to be lifted from its ſituation, without firſt expoſing its ſurface, and ſhewing all the adjacent parts with their relative ſituations,—that while we acquire the management of the knife, we may at the ſame time engrave on our minds, the conſtituent parts of the human body, and their relations and uſes with reſpect to each other.

Dry Preparations.

(1) Heart; (2) Trunk; (3) Head; (4) Paſſage of the Internal Carotid Artery through the Petrous Bone; (5) Circle of Willis; (6) Cœliac Artery and Viſcera; (7) ditto, and all the Abdominal Veſſels and Viſcera; (8) Arteries, and Nerves of the Arm; (9) Arm, with Scapular Artery ſent off from the Axillary; (10) Deep ſeated Arteries of the Elbow, Fore-arm, and Hand; (11) Palmar Arteries; (12) Divarication of the Radial and Ulnar Arteries from the Axilla; (13) ditto from the Brachial; (14) ditto, and Palmar Arteries; the Trunk ſent from the Inferior Palmar Arch to the ring and little Finger. In this caſe, a deep cut would not have produced the Hœmorrhage taking place in the uſual diſtribution: (15) Arteries, Veins, and Nerves of the Arm; (16) variety of the Veins; (17) Veſſels of the Inferior Extremity; (18) Tree of ditto; (19) Arteries of the Leg, and deep ſeated Arteries of the Foot; (20) Small Arterial ſubject; (21) ditto, Arterial and Venous; (22) Head, ſhewing proceſſes of the Dura Mater, Sinuſſes, and Veins of the Head; (23) Venous Subject, with Vena Portarum; (26) Valves of the Caput Coli, and Valvulæ Conniventes, Adult; (27) ditto, young

Subject; (28) Male Pelvis, Adult; (29) young Female Pelvis; (30) Occipital Sinuſes, Fœtus; (31) Ligament of the Coracoid proceſs oſſified.

The following Preparations are not referred to, and need explanation; they may be ſeen, by Gentlemen, intimating their deſire a week before, that others may have an opportunity of viewing them likewiſe.

Wet Preparations, &c.

Os Ethmoides—Palati—Unguis—Oſſa Turbinata Inferiora, and Vomer.

(31) Component parts of the Eye; (32) ditto laid more open; (33) Muſcles of the Eye; (34) Integuments of an African; (35) ditto of a European; (36) Integuments marked by Puncture; (37) ditto of an European; (38) Lymphatics of the Lungs; (39) Lacteals; (40) Teſticle with Lymphatics, &c. (41) Capſule of the Vitreous Humour; [42] Model of the Brain; [44] Heart in a recent ſtate; [45] Fœtal Heart; [46] Diſſection of an Oſſified Artery, and hiſtory of the ſubject; [47] Diſſection of the Nerves of a Fœtus; [48] Larynx, and Muſcles of the Tongue, Oeſophagus, and Larynx.

Morbid Preparations.

[49] Oſſeous Tumor, formed at the anterior part of the Liver, the Ducts injected; [50] Calcareous matter and Stones formed in an enlarged Bronchial Gland, which obſtructed the circulation of the Aorta, &c. Bones of the ſame ſubject uncommonly light; [52] Two Hepatic Ducts, found in the Liver of a perſon Jaundiced; [53] Biliary Ducts diſtended with Calculi; [55] Arm, where the Muſcles of the Os Humeri were completely abſorbed; and hiſtory of the ſubject; [57] Oſſifications formed in the Falx of the Dura Mater; [58] Carious Femur; [59] ditto; [60] Exoſtoſis occaſioning a ſtiff Elbow Joint in a Scrophulous ſubject; [61] ditto Carious; [62] Head in a ſtate of Caries; [63] Head of an old perſon; [64] Callus of Os Humeri.

I would recommend that Gentlemen, previous to Diſſection, ſhould ſtudy, from the Drawings and Preparations, ſuch parts as they mean to Diſſect.

OSTEOLOGY.

Manner of Describing Bones.

Bones how deſcribed.

BONES are deſcribed by attending to their general appearances,—particular Depreſſions or Foſſulæ,—their Elevated Portions and Spines,—their Protuberances or Proceſſes,—their Canals or Foramina,—their Laminæ, which compoſe the walls of bones,—and their *Cancelli* or *Meditullium* diffuſed between ſuch plates.

Component parts of Bones of the Head.

Their ſurfaces are formed of thin *Laminæ*, named *Tables* or *Plates*. The internal ſtructure cancellated, named *Diploe*, or Meditullium.

HEAD.

Eight Bones compoſing the Cranium. Preparation, No. 1.

The bones, compoſing the ſpherical part of the *Cranium*, incloſing the ſubſtance of the Brain, and tranſmitting the Spinal Marrow and Nerves, are 8 in number, viz.

a *Os Frontis*—b *Oſsa Parietalia*—c *Oſsa Temporum*—d *Os Occipitis*—e *Os Sphenoides*—f *Os Ethmoides.*

Cranium Oviform.

The anterior portion of the Cranium is named *Sinciput*.

The ſuperior middle part, *Vertex*.

The poſterior portion, *Occiput*.

The lateral portions, *Temples*.

Lower part, the *Baſe*.

Face-bones, 13 in number.

The irregular pile of bones compoſing the Face, forming the upper arch of the Mouth, the noſtrils, and greater part of the Orbits, are 13 in number:

Preparation, No. 2.

a *Oſsa maxillaria ſuperiora*, to which the other 11 bones are attached, *viz.*—b *Oſsa Naſi*—c *Oſsa Unguis, or Lachrymalia*—d *Oſsa Malarum*—e *Oſsa Spongioſa Inferiora*—f *Oſsa Palati*—g *Vomer*, a ſingle bone.

Lower jaw forms lower moveable part of face.

Perhaps the lower jaw appended to the baſe of the Cranium ſhould be ranked amongſt thoſe of the face.

Particular Description of Bones of the Head.

In my demonſtrations I prefer beginning with the *Os Sphenoides* as it is the baſis of the *Cranium*, and to which every bone of the ſphere is more or leſs connected.

OS SPHENOIDES.

General appearance : is likened to a Bat with extended wings,—compoſed of Body, 2 pair of internal proceſſes,—5 pair and 1 azygos externally.

Internal View.

Body.	A—— Body of the bone named from its general ſhape *Sella Turcica*, of a cubical form, from which all the *Proceſſes* ſpring, and around which all the *Foramina* are placed : hollow internally, named *Sphenoidal Sinus*, commonly has a Septum ; ſometimes the ſinus wanting.
Great Wings.	B—— Great Wings of Ingraſias, laterally.
Small Wings.	C—— Small Wings of Ingraſias, or tranſverſe proceſſes, lateral and anterior to the *Sello*.
Pituitary Foſſa.	A——Or hollow ſurface of *Sella* Turcica—2 pair of *proceſſes* ariſe from the internal part of this bone.
1 Anterior Clinoid proceſs.	† Lateral anterior portion of the *Sella*, the portion marked thus †, ſuppoſed the pillar, the portion above compared to the top.
2 Poſterior Clinoid proceſſes.	↔ Poſterior lateral part of the *Sella*,—theſe pillars are ſometimes united by a bony bridge. Preparation, No. 3.
Carotid Sinus.	* Lateral ſides of the *Sella*.
Convolutions.	B—— Correſponding to the middle lobes of the Brain.

External View

Of Body, &c. from which 5 pair *proceſſes*, a ſingle *proceſs*, and 2 *hooks* ſpring.

1 Temporal.	E——Lateral and External portion of Great Wings.
2 Orbitar.	F——Anterior portion of Great Wings.
3 Pterygoid.	G——Sent down vertically from the lateral portions of body of the bone, compoſed of an external *broad*

ſhort plate; and internal *narrow long plate:* from which laſt the pterygoid *Hooks* g depend.

4 Spinous.	H——Triangular, its baſe ſent off horizontally from the junction of the temporal and pterygoid proceſſes.
5 Styloid.	h——depending from the laſt between the oval and ſpinal Foramina.
6 Azygos.	I——Inferior portion of the body §.

Six Pair Foramina, viz.

1 Optic.	a·—Tranſmitting the Optic Nerve and Opthlamic Artery.
2 Foramen Lacerum.	b——Formed between little and great wings of Ingraſias.—b Tranſmits 3d, 4th, 1ſt branch of 5th, part of 6th Nerve, and a branch of the internal carotid to the orbit.
3 Foramen Rotundum.	c——Behind laſt. Tranſmits the 2d or ſuperior Maxillary branch of 5th Nerve to the Orbit, or plate of ſuperior Maxillary bone, and ſupplies the teeth and face.
4 Foramen Ovale.	d——Behind laſt. Tranſmits 3d or inferior Maxillary branch of 5th Nerve.
5 Foramen Spinale.	e——Behind laſt. Tranſmits the great or middle Dura-matral artery.
6 Vidian Foramen	f——Found at the upper part of the poſterior margin of the internal pterygoid plate, tranſmits part of 2d branch of 5th Nerve, ſent backwards to unite with the Intercoſtal.
Euſtachian Tube.	g——Situation of the mouth of the Euſtachian tube.

Muſcles connected with Os Sphenoides.

Foramen Opticum.	a——Anterior portion gives origin to 5 Muſcles of the Eye Ball.
Temporal Proceſs.	15——Origin part of Temporalis.
Spinous Proceſs.	H——Origin of Circumflexus Palati—Externus Mallei, or Laxator Tympani—and Tenſor Tympani.
External Pterygoid Plate.	2——Pterygoideus externus—Origin.
Internal Plate and Foſſa.	1* Pterygoideus internus—Origin.
Hook.	g——Hook, around which Circumflexus Palati turns.

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§ The Sinus of this bone, is the cavity contained within the walls of the body and proceſſes. Preparations 5 and 6.

OS FRONTIS.

General ſituation in the Scull and its uſe,—Defends and ſuſtains part of the Brain, receives part of the Eyes, forms part of the Temples.

General appearance.	Semicircular.—A Convex externally forming the Forehead and the upper part of the Cranium.
	B——Concave internally, defends the Brain,—Edge ſerrated,—Compoſed of its great ſemicircular portion,—2 inferior vaulted portions,—4 pair of proceſſes,—and 3 pair of Foramina.

Internal Surface.

	C——Marked by convolutions correſponding to the hemiſpheres of the Brain and Arteries of Dura Mater.
Spine.	D——Or Groove, lodging the anterior portion of the Falx.
Foramen Cæcum.	E——Into which the Falx is inſerted, and an artery enters,—not always a blind hole.
Recipient of Ethmoidal Plate.	F——The lateral and adjacent ſides of theſe proceſſes receive the Ethmoid Plate into a margin adapted to the Os Ethmoides. Preparation, No. 5.

External View.

Frontal Sinus.	G——Formed from the junction of the Supercilia to near the middle of the Orbit. Theſe Sinuſes are ſometimes diffuſed very amply, and occupy the whole Orbitar vaults. Preparation, No. 4. And ſometimes they are filled up by Cancelli—Preparation, A.
Foſſa of Superior Obliquus Muſcle.	H——Foſſa of Ligament of ſuperior obliquus of the Eye—Internal or great Canthus.
Lachrymal Foſſa.	I——Foſſa Glandulæ Lachrymalis,—External or leſſer Canthus.

Four Pair of Processes.

1 Naſal Proceſs.	a——In the middle.
2 Internal Angular.	b——Termination of Superciliary Arches—b receives naſal Proceſs of Maxillare Superius—h receives Os Unguis.
3 External Angular.	c——External termination of Superciliary Arch.

4 Orbitar. d——Or Orbitar vaults, ſmooth, inferiorly adapted to the Eye, marked ſuperiorly by the convolutions of the Anterior Lobes of the Brain.

Three Pair Foramina.

1 Foramen Orbitarium Superius. e——Sometimes a Notch, tranſmitting—1ſt, branch 5th Nerve; and branch internal Carotid to the Forehead.

2 Foramen Orbitarium Anterius. f——Tranſmits naſal Twig of 5th Nerve,—and Ophthalmic Artery.

3 Foramen Orbitarium Poſterius. g——Tranſmits Ocular Artery to the Noſe *.

Muscles.

1. Frontal Muſcle reſts upon this Bone, beginning at nearly the Superciliary Arches, adhering to (2) the *Orbicularis Palpebrarum.* 15. Gives origin to a portion of the Temporal Muſcle.

3. Superciliary Muſcle. See Drawings.

OSSA PARIETALIA.

General ſituation in the Scull, lateral—Shape ſomewhat Square. Compoſed of its Convex and Concave Surfaces. Its 4 Edges, 4 Angles, and Foramina.

A——Convex externally.

B——Concave internally, edges ſerrated.

C——Externally, it juts in the middle at the temporal ridge.

External View.

4 Sides, and 4 Angles. Diſtinguiſhed by D ſuperior—E anterior—F inferior—G poſterior edges—and H ſuperior anterior angle—I inferior anterior angle—K inferior poſterior angle—L ſuperior poſterior angle.

Inferior Edge. M——Marked by a rounded ſquamous margin.

Internal View.

Superior Edge. N——Contains half of the ſuperior longitudinal ſinus.

Foramen, Superior Edge. O——Toward the poſterior angle; 2 foramina; or 1 foramen, tranſmit veins from the integuments to the longitudinal ſinus; often wanting.

Anterior Inferior angle, Dura Matral Artery. P——Here the Dura Matral Artery paſſes through a groove, or forms a ſinus for itſelf, and is diffuſed over the internal parietes of the Bone in an arboreſcent manner.

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* The 2 laſt Foramina ſometimes formed partly by the Os Frontis, and partly by the Os Ethmoides.

Inferior Poſterior Angle. Q——Marked internally by a portion of the lateral Sinus.

MUSCLES.

Frontal Muſcle. I. The joint tendon of the Occipito-Frontalis, paſſes above the white line of the temporal Bone.

Temporal Muſcle. Ariſes from—15. the whitiſh ſegment.

OS OCCIPITIS.

Situation in the Skull and Offices. Forms part of the poſterior and baſillary portions of the Cranium; defends the Cerebrum and Cerebellum; and gives riſe to Muſcles at its lower external portion.

General Shape. Somewhat oval with pointed extremities,—A convex externally,—B concave internally; a great oval Foramen at the lower extremity. The lateral circular edges ſerrated.

Compoſed of its body—1 pair, and an azygos proceſs,—Azygos Foramen, and 1 pair, ſometimes 2 pair of Foramina.

External View.

Superior Spherical portion. Large upper tranſverſe ridge. C. The external ſurface at its ſuperior portion is ſpherical, and finiſhes off the poſterior part of the Cranium. Below this, there is an arch and tranſverſe ridge C.

Small inferior tranſverſe ridge. D——Another lies between the above and the great Foramen E,—there is a vertical ſpine CE ariſing from the middle of theſe tranſverſe ones.

Foramen Magnum and Cuneiform proceſs. F——the Bone terminates in the Cuneiform proceſs, or ſphenoidal junction, ſituated before the great hole.

Internal View.

4 Internal Cavities. Divided into 4 portions by

Crucial Spine. G——Crucial Spine, which gives attachment to the Sinuſes of the Dura Mater.

H——The ſuperior perpendicular portion of the Sinus, is generally hollow towards the right, and communicates with the tranſverſe portion on that ſide. See injected preparations of the Sinuſes.

Poſterior termination of Longitudinal Sinus. I——The ſuperior portion of the Croſs gives riſe to the poſterior part of the Longitudinal Sinus.

Lateral Foſſulæ of Tentorium Cerebello ſuper expanſum.	K——The lateral Foſſulæ point out the ſituation of the lateral Sinuſes or Venous Ducts of the Brain, and the inſertions of the *Tentorium* *. The inferior Spine has a duplicature of the Dura Mater ariſing from it, forming a Septum or Falx of the Cerebellum.
Portions lodging Cerebrum and Cerebellum.	L——The 2 ſuperior depreſſions receive the poſterior lobes of the Brain,—M The 2 inferior ones lodge the poſterior portions of the Cerebellum.
Foſſa.	N——The Tuber Annulare, or Pons Varolii, reſts on the internal Foſſa of the Cuneiform proceſs.
	Three proceſſes belong to this Bone,—F the *Cuneiform*, *Azygos*, or *Sphenoidal proceſs*. P the Condyles.
Ligamenta Lateralia.	Q——fixed at the inner anterior portion of the Condyles.
Ligamentum Proceſſus Odontoidis.	R——Or Perpendiculare—between the laſt.
Ligamentum Latum Anterius & Poſterius.	Are inſerted at the anterior and poſterior external pits of the Foramen Magnum.
Ligamenta Capſularia.	Attached to the ſcabrous external edges of the Condyles, &c. preparation, No. 11.
	There are always three Foramina belonging to this Bone, ſometimes 5.
1 Foramen Magnum.	a——Which tranſmits the Medulla Oblongata,—Nervi Acceſſorii,—Vertebral Arteries,—and ſometimes Vertebral Veins.
2 Condyloid Foramen.	b——The other two permanent Foramina are found directly above the anterior portion of the Condyles,—ſometimes are divided into 2 holes internally,—they tranſmit the 9th or Lingual Nerve, and are diſtinguiſhed by an arch raiſed over them.
2 Foramina.	c——The 2 Foramina, which are ſometimes wanting, open from behind the Condyles into the lateral Foſſulæ of the Sinuſes, emptying there the blood of

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* This is nearly in a line with the ſuperior external ridge, where the Muſcles are inſerted, and is the external diſcriminating point of the ſituation of the Cerebrum and Cerebellum; the former being above, the latter beneath.

the Cervical Veins, where theſe Veins do not paſs by the Great Foramen.

Portion of Foramen Lacerum, or Jugular Foramen.

d——Exactly at the outer ſide of the Condyles, a portion of the Foramen Lacerum in Baſi Cranii, which joins the Temporal Bone, is ſituated; which tranſmits the beginning of the great or internal Jugular Vein, the Par Vagum and Acceſſorius paſſing before it, and Arteries likewiſe to the Dura Mater.

Muscles connected with the Os Occipitis.

Great or Superior Tranſverſe Ridge.

19—— Occipital Muſcle—Origin.
1——Trapezins—Origin.
20——Complexus—Origin, a little beneath the laſt.

Small or Inferior TranſverſeRidge.

26 †——Splenius—Origin, lateral, and external with reſpect to the Complexus.
27——Obliquus Capitis ſuperior—Inſertion.
29——Rectus Capitis poſticus Major—Inſertion, laterally.
30 —— —— —— Minor, ditto

Condyles, outſide.

28——Rectus Capitis Lateralis—Inſertion.

Cuneiform Proceſs.

31——Rectus Capitis anterior Major, ditto.
1 Conſtrictor Pharyngis Superior —Origin.
—— —— Medius—Inſertion, between the two Muſcles laſt mentioned.

OSSA TEMPORUM.

Situation in the Cranium, lateral, and a little towards the baſis. General appearance, oval, compoſed of 1 internal and 4 external Proceſſes, 1 internal and 4 external Foramina; ſometimes 5.

Externally. A——An oval convex ſhape.
Internally. B——Irregular.
Superior portion externally. C——Convex'd with a ſquamous edge.

External View.

Four Proceſſes.

1 Zygomatic Proceſs. D——Hook like body.

Condyloid Sinus. E——Behind the laſt the recipient of the Condyle of the lower Jaw is ſituated Scabrous around for articulation of the Ligament of the lower Jaw.

Parotid Sinus. F——The adjoining hollow lodges a portion of the Paroed Gland.

2 Vaginal and 3 Styloid proceſſes.	G——Vaginal proceſs, its middle portion depends where it lies before the Styloid proceſs g; the ſituation of the laſt is therefore eaſily found out, though the Styloid proceſs is ſeldom preſent in dry bones, except the root, between which, and the proceſs there is a Cartilaginous ſubſtance, ſometimes Oſſified, ſo as to occaſion the appearance of the complete Styloid proceſs, named from its reſemblance to the Stylus Scriptorius of the Ancients.
4 Maſtoid Proceſs.	H——Nipple-like body.

Internal View.

Convolutions.	Marked with the convolutions of the middle lobe of the Brain, and arboreſcent impreſſions of the Dura Matral Arteries.
Os Petroſum in the middle.	Divided into 2 unequal portions by F, the Os Petroſum or Petrous Proceſs,—the curved ridge is named, Spine of Petrous Proceſs.
Lateral or Jugular Sinus.	K——Behind the Petrous proceſs is placed the deep foſſa of the Lateral Sinus, and its thimble-like cavity—k, which tranſmits the beginning of the Jugular Vein,—a Spine formed ſometimes from this and the Occipital Bone, ſurrounding the Par Vagum.

6 pair Foramina belonging to this Bone, ſometimes only 5,—3 externally and 2 internally.

Externally.

1 Meatus Externus.	a——Meatus Auditorius externus.
2 Foramen Stylo-maſtoideum.	b——Tranſmits the Portio Dura of 7th Nerve.
3 Carotic Canal.	c——In the form of a Syphon, tranſmitting the internal Carotid Artery, and the beginning of the Intercoſtal Nerve.
Euſtachian paſſage.	d——Iter a Palato ad Aurem, or Oſſeus portion of Euſtachian Tube.
4 Venous Hole.	e——Venous Foramen from the Integuments to the Sinus; ſometimes wanting.

Internally.

Meatus Internus.	h——Meatus Auditorius Internus, divided into the Aqueduct of Fallopius, and the Foramen of the Portio Mollis.

i——Foramen tranſmitting a branch of 5th Nerve to the Ear.

Muſcles connected with Os Temporis.

Squamous Portion.	15——Temporalis,—Origin.
Zygomatic Proceſs.	14——Maſſeter,—Origin.
Maſtoid Proceſs.	26——Sterno-Cleido-Maſtoideus,—Inſertion.
	26 †——Splenius,—Inſertion.
	27——Trachelo-Maſtoideus,—ditto.
Poſterior Sinus of the Maſtoid Proceſs.	21——Digaſtricus,—Origin.
g Styloid Proceſs.	‡——Stylo-Gloſſus,—Origin.
	7——Stylo-Hyoideus,—ditto.
	†——Stylo-Pharyngeus,——ditto.
	9——Ligament of the Os Hyoides, ditto.

OS ETHMOIDES.

Preparation, No. 5.

1. Criſta Galli,—on each ſide is the Cribriform plate 2—from the Criſta there is a vertical plate 3 ſent off traverſing the whole middle of the Cribriform,—named Naſal or Azygos proceſs of this Bone. 4. Internal Vertical plate, ſent off at the margin of the Cribriform plate. 5. External Vertical plate, or Os Planum, ſent off from the margin *, received by the orbitar proceſs of the Os Frontis *, there is a want ‡ anteriorly, which is filled up † by Os Unguis. See No. 6. 6. Cells of this Bone ſent off by the 2 Vertical plates. 7. Their inferior junction terminates in the Os Turbinatum Superius. 13. The junction of the Azygos proceſs of the Os Ethmoides and Os Sphenoides. The Orbitar proceſs of Os Palati, ſeen joining the Cells of the Ethmoid.

Component Parts of Os Ethmoides.

Preparation, No. 6.

Naſal Septum, &c.

a——Frontal Sinus and Septum,—h Sphenoidal Sinus and Septum; 1 Criſta Galli,—on each ſide are, the Cribriform plates 2,—from the Criſta there is a Vertical plate 3, ſent off traverſing the whole middle of the Cribriform, named Naſal or Azygos proceſs of this Bone. 4. Internal Vertical plate, ſent off at the margin of the Cribriform plate. 5. External Vertical plate, or Os Planum, ſent off from the margin, received by the Orbitar proceſs of the Os Frontis; there is a want ‡ anteriorly, which is filled up by † Os Unguis. 6. Cells of this Bone ſent off by the 2 Vertical plates. 7. Their inferior junction terminates in the Os Turbinatum Superius. 8. Inner ſurface of Antrum Maxillare, on the inner portion of which is ſeen the Os Turbinatum Superius. 9. Vomer receiving 3. 10. Spines of Maxillary Bones receiving the Vomer. 11. Criſta of Maxilla receiving Vomer. 12. Cartilaginous Septum received by 3, 9, and 11. The Septum is therefore compoſed of 3, 9, 11, and 12. The junctions of the Ethmoides with the anterior part of Os Sphenoides are here ſeen at 13.

BONES OF THE FACE.

We begin with the Oſſa Maxillaria Superiora, as they are the largeſt of theſe bones, and all the others of the face are connected with them. Their ſituation with reſpect to the Cranium is anterior,—they form a great portion of the Orbits,—of the Noſtrils and the Mouth, and bear a great ſhare in characterizing the countenance.

There are 9 Proceſſes and 2 Foramina belonging to this bone.

1 Alveolar Proceſs.
2 Anterior Spine and Naſal Proceſs.

A——Marked by 3 lines externally, and 2 Spines; the anterior of theſe ſpring from the 3d tooth B, or Alveolus of Cuſpidatus, and is diffuſed towards the anterior portion of the Orbit and Noſtril, terminating in C Naſal proceſs.

3 Poſterior Spine and Malar Proceſs.

The 2 Spine D ſprings from the anterior portion of the Alveolus of the 6th Tooth or anterior Molaris, and is diffuſed upward, terminating in E Malar proceſs.

4 Orbitar Plate or Proceſs.

F——Between the Naſal proceſs and Malar proceſs, the Orbitar plate or proceſs is ſtretched backwards, ſpringing obliquely upward from the Malar proceſs.

5 Maxillary Tuberoſity.	G——The poſterior jutting portion where the Palate bone is received internally.
6 Lachrymal Spine.	H——Lachrymal Spine which aſſiſts in forming
Ditto Foſſa.	I——Lachrymal Foſſa.
7 Anterior Naſal Spine.	K——Suſtaining the anterior proceſs of the Os Turbinatum Inferius.
Naſal Sinus.	L——Naſal Sinus terminating in
8 Palate Plate and Spine.	M——Palate plate, which is reflected upwards to form N Palate Spine, which terminates at C.
9 Criſta.	P——Criſta, which joins the anterior part of the Vomer.

The cavity A formed by the walls of this bone, named Antrum Highmorianum.

Three Foramina.

1 Oſſeous.	a——The Foramina of the nouriſhing veſſels.
2 Infra Orbitar Foramen.	b——Tranſmits the 2d branch of 5th Nerve paſſing from the Sphenoidal Foramen Rotundum through the Maxillary Orbitar Gutter, to the teeth and face.
3 Foramen Inciſivum.	c——The Foramen Inciſivum which tranſmits ſmall Arteries to the Palate.

Muscles connected with the Superior Maxillary Bone.

Naſal Proceſs	8——Levator Labii Superioris Alæq. Naſi,—Origin.
Over the Orbitar Foramen	7——Levator Labii Superioris proprius,—Origin.
Beneath the laſt.	6——Levator Anguli Oris,—ditto.
Above the Dentes Inciſivi.	12——Depreſſor Labii Superioris Alæq. Naſi,—Origin.
Tubercle.	13——Buccinator,—Origin,—partly.

OSSA NASI.

Their particular ſituation in the Skeleton. Placed over the Noſtrils, form a ſtrong arch, extend and defend the organ of Smell, ſomewhat like a key-stone of an arch, triangular and oblong.

Convex Externally.	A.——Arch of the Noſe.
Concave Internally.	B.——Internal Cavity of the Noſtrils.
Superior End.	C——Thick and denticulated, where it reſts on the naſal proceſs of the Frontal Bone.

Junction of the Naſal Bones with each other, Oſſa Maxillaria Superiora and Cartilage of the Noſe.	D——The ſide which joins with its fellow,—ſhorter, more ſtraight,—thicker at the ſuperior portion than at the margin E, which joins the naſal proceſs of the Maxillary Bone. F denticulated portion, on which the Cartilaginous alæ are placed.
Nouriſhing Veſſels.	G——The Foramen diſcoverable externally, which tranſmits the internal veſſels, marking the Bone internall.

OSSA MALARUM.

Their ſituation in the Skeleton; form the Cheek Bones; give riſe to Muſcles, and tranſmit Temporal Muſcle beneath them; compoſed of 2 ſides, 4 edges, and 6 proceſſes.

General appearance an irregular ſquare.

Convex Externally.	A.
Concave Internally.	B.
Circular above.	C.
1 Orbitar Portion or Proceſs.	D——Conſiderable Segment of a circle,—compoſes part of the Orbit.
2 Poſterior Orbitar Proceſs.	E——The jutting portion backwards.
3 Superior Orbitar Proceſs.	F——The portion above the former.
4 Inferior Orbitar Proceſs.	G——The pointed end of the Segment oppoſite to that of the ſuperior proceſs.
5 Maxillary Proceſs.	H——The Angular portion below the laſt.
6 Zygomatic Proceſs.	I——The Zygomatic proceſs below the ſuperior Orbitar proceſs.
Nervous and Vaſcular Foramina.	K——Tranſmitting nerves and veſſels from the external ſurface to the orbit.
	L——Nouriſhing veſſels internally.

Muscles connected with Oſſa Malarum.

Inferior Margin.	14. Origin of part of Maſſeter.
Poſterior Inferior Portion.	4. Zygomaticus Major, Origin.
	Upper part of the circle covered by the Orbicularis Palpebrarum.

OSSA UNGUIS.

Situation in the Skeleton and their uſe : Form part of the Orbits and Lachrymal Canal,—compoſed of external and internal ſides and groove.

General Shape : Internal Margin circular —a Canal anteriorly, with a pedeſtal reſting on the ſuperior Maxillary plate, or Orbitar proceſs,—the larger plate concave externally, convex internally,—takes on the general ſhape of the Oſſa Plana,—ſeveral Foramina and Grooves obſerveable, formed by the veſſels and nerves paſſing on this bone.

OSSA PALATI.

Their ſituation in the Skeleton ; form part of the eye, the cells and walls of the Noſtril, and Roof of the Mouth.

General appearance : A ſmall ſquare plate, from which a triangular one ſprings at right angles, compoſed of 4 proceſſes and half of a Foramen.

1ſt Palate Proceſs.

The ſmall ſquare plate takes on the exact formation of the Palate Plate of the ſuperior Maxillary Bone, which it joins poſteriorly, and has the name of Palate Proceſs. A Spine is reflected upwards from this plate, as in the ſuperior Maxillary Bone, and has the ſame office of receiving the Vomer in the channel, formed by it and its fellow.

2d Triangular or Naſal Proceſs.

The irregular triangular perpendicular portion is named Naſal Proceſs, from its forming the poſterior part of the Noſtrils, covering the greater part of the Antrum of upper Maxillary Bone.

3d Orbitar Proceſs.

At the ſuperior portion we find the Orbitar proceſs.

4th Ethmoid Portion.

Behind this, a Foſſa which joins the Ethmoidal Bone.

Foramen Spheno Palatinum, or Sulcus.

Below this, on the poſterior margin of the bone, is a ſegment of a Foramen ; ſometimes the Foramen is completed by the Sphenoid Bone ; ſometimes it is complete in the Palate Bone ; this named Foramen, *Spheno Palatinum*,—tranſmits part of 2d branch of 5th Nerve, which ſupplies the Noſtrils, Temples, and Palate, Ridge. In the middle of the bone, we find the Ridge, bending downward, and obliquely backwards; on which the poſterior portion of the Os Turbinatum Inferius reſts.

4 Pterygoid Portion or Poceſs. The poſterior part of the bone terminates in the Pterygoid proceſs, which is inſerted into the Bifurcation of the Pterygoid Plates of the Sphenoid Bone.

Pterygoidean Foſſa. The *Pterygoidean Foſſa*, as it is named, is half of a Foramen, which is completed by a ſimilar one in the Maxillary Bone: This, however, in my preparation, is complete in the Palate Bone, tranſmits the Palatine branch of 5th Nerve, and an artery; there is often a complete hole beſides the one deſcribed.

OSSA TURBINATA INFERIORA.

Their ſituation in the Skeleton.—placed in the lower region of the Noſtrils—extend the organ of ſmell, —compoſed of the body, or external and internal ſides, and 3 proceſſes.

General ſhape, like one half of a funnel, the great end anterior.

Convex externally.

Concave internally; the ſurfaces waved, by which means they are extended.

1 Lachrymal or Anterior Proceſs. Anterior, forming part of the Lachrymal Foſſa, reſts on the Naſal Spine of the Os Maxillare Superius.

2 Hook or Middle Proceſs. Reſts on the middle of the Antrum Highmorianum.

3 Poſterior Proceſs. Reſts on the Spine or Ridge of the Palate Bone.

VOMER.

Situation in the Skeleton,—Completes the lower portion of the Oſſeous Septum Narium,—ſhaped like a plowſhare,—Compoſed of 2 flat ſurfaces, or ſides, 4 edges; and an infundibulated portion.

1 Superior Sulcus. Receives the Azygos proceſs of the Ethmoid Bone; and Cartilage of the Noſe. The anterior edge joins the Criſta of the ſuperior Maxillary Bone.

2d Foſſa. Which receives the inferior portion of the Azygos proceſs, of the Sphenoidal Bone,—funnel ſhaped.

3d Poſterior Spine.	The poſterior edge of Septum Narium.
4th Inferior curved edge received into the Sulcus of the Maxillary Spine.	The Palate, curved, Spine which is inſerted into the furrow of the Palate Spines of the ſuperior Maxillary and Palate bones.
	This bone, or the Azygos proceſs of the Ethmoides, or both, ſometimes crooked, from their growing more luxuriantly than the bones which ſurround them; and ſuch diſtortions have, by the ignorant practitioner, been miſtaken for Polypi. See preparation of the ſkull, A, No. 7.

MAXILLA INFERIOR.

	Situation in the Skeleton: Lower moving portion of the Head,—its uſe;—enlarges the Mouth,—is the bed of the tongue,—the agent employed in ſpeech, Maſtication, &c.
	General Shape; like a U or horſe ſhoe.
Alveolar Proceſs.	Has a direction inwards, when viewed externally with reſpect to the lower part of the jaw, which occaſions its teeth to fall within the upper ſet.
Cuſpidatal and Malar Spines.	The lines and projections at the Alveolus of the Cuſpidatus (b) and anterior Molares (c) not ſo much marked as in the upper jaw.
Chin.	A
Sides.	C
Coronoid Proceſs. Semilunation. Condyloid Proceſs.	D——Beginning at Anterior Molaris; riſes ſharply, terminates with a poſterior ſemilunation in the neck E, of the Condyloid proceſs (e); of an oblong ſhape, placed in a tranſverſe direction in the recipients of the Os Temporis; the internal extremity ſituated higher, and more backward, than the external; ſometimes they are nearly tranſverſe.
Angles.	F——Lower angle of the jaw.
Aſcending Ramus.	G——Aſcending Ramus of lower jaw.
Internal Groove.	I——Groove of the Veſſels and Nerves of the lower Jaw.
	K——A ſcale-like proceſs, between the Coronoid proceſs, and angle; from which a Ligament is ſtretched to the oppoſite ſide, preventing the compreſ-

	ſion of the Veſſels and Nerves, by the action of the Pterygoid Muſcles.
Foramina.	M——Foramina at the Chin.

Six Muscles connected with the Inferior Jaw, Externally.

Aſcending Ramus.	14. Maſſeter,—Origin.
Coronoid Proceſs.	15. Temporalis,—Inſertion.
Beneath and anterior to the Mental Foramen.	10. Depreſſor Anguli Oris,—Origin.
Chin.	11. ——— Labii Inferioris,—Origin.
Alveolar Proceſs.	13. Buccinator,—Origin.
Beneath Dentes Inciſivi.	X——Levator Labii Inferioris,—Origin.

Six Internally.

Inferior part of Chin.	21. Digaſtricus,—Inſertion.
Inferior portion of Alveolar Proceſs.	4. Mylo-Hyoideus,—Origin.
Above 21.	1. Genio-Hyoideus,—Origin,
Tubercle above laſt.	2. Genio-gloſſus,—Origin.
Aſcending Ramus.	1 † Pterygoideus Internus,—Inſertion.
Cervix.	2 † Pterygoideus Externus,—Inſertion.

Remarkable Parts of Complete Skull, No. 8.

Sutures.

1ſt, Coronal.	Connection of Os Frontis and Oſſa Parietalia.
2d, Sagittal.	Junction of Oſſa Parietalia, running backwards from the middle of Frontal.
3d, Lambdoid.	Junction of Oſſa Parietalia and Os Occipitis.
4th, Additamentum Suturæ Lambdoidis.	Junction of the Maſtoid proceſs of the Os Temporis, and Os Occipitis.
5th, Squamous Suture.	Junction of Temporal and Parietal bones, where there are no Serrati.

6th, Oſſa Triquetra.	Connected with the Lambdoidal Suture generally, but formed at times in all Sutures.
7th, Temporal Suture.	Junction of the Os Parietale, Frontis and Malæ.
8th, Tranſverſe Suture.	Extending from the one external Canthus of the Eye to the other.
9th, Anterior Naſal Suture.	Junction of Naſal Bones with each other.
10th, Lateral Naſal.	Junction of Oſſa Naſi with Naſal proceſſes of Oſſa Maxillaria Superiora.
11th, Ethmoid Suture.	Junction of the Os Planum with Orbitar proceſs of the Os Maxillare Superius, and Anterior portion of Os Sphenoides.
12th, Lachrymal Suture.	Surrounding Os Unguis.
13th, External Orbitar Suture.	Junction of Os Malæ and Orbitar Proceſs of the Os Maxillare Superius.
14th, Maxillary Suture.	Junction of Os Malæ and Malar Proceſs of Os Maxillare Superius.
15th, Zygomatic Suture.	Junction of Zygomatic Proceſſes of Os Malæ and Os Temporis.
16th, Myſtachal Suture.	Junction of Oſſa Maxillaria Superiora below the Noſtrils.
17th, Longitudinal Palate Suture.	Junction of Palate Plates of the Oſſa Maxillaria and Oſſa Palati with each other.
18th, Tranſverſe Palate Suture.	Junction of anterior portions of Oſſa Palati, and poſterior, of the Palate proceſſes of Oſſa Maxillaria Superiora.
	General Shape of the Skull, Oviform : with the bones of the face erected on its anterior and lower portions,—its ſphere compoſed of eight bones. See page 1.
Orbit.	A——Compoſed of ſeven bones. 1. Anterior portions of great and little wings of Ingraſias. 2. Orbitar vault of Os Frontis. 3. Os Planum. 4. Os Unguis. 5. Orbitar Plate of Os Maxillare Superius. 6. Orbitar portion of Os Malæ. 7. Orbitar proceſs of Os Palati.
Noſtrils.	B——Compoſed of 13 bones, viz. Oſſa Naſi,—Oſſa Maxillaria Superiora,—Oſſa Unguis,—Oſſa Turbinata Superiora and Naſal proceſs of Os Ethmoides,—Oſſa Palati,—Oſſa Turbinata Inferiora,—Vomer,—Internal

	plate of Pterygoid proceſs of Os Sphenoides, and inferior portion of the Azygos proceſs of the ſame bone *.
Os Malæ.	C——Or Cheek-Bones.
Zygoma.	D——Which confines the jaw, and gives riſe to the Maſſeter Muſcle.
Maſtoid Proceſs.	E
Styloid Proceſs.	F
Temporal Ridge.	G——Ridge of the Temporal Muſcle.

BASE OF THE SKULL.

Palate Arch.	H——The Arch of the Palate, or Roof of the Mouth.
Noſtril.	I——The Noſtrils divided by the Vomer, and limited laterally by the Pterygoid proceſſes of the Os Sphenoides, as deſcribed particularly at Noſtrils, B.
Condyloid Recipients.	K——Recipients, or the Condyloid Cavity of the lower Jaw.
Petrous Proceſs.	L——Petrous proceſs of Os Temporis.
Cuneiform Proceſs.	M——Cuneiform portions of the Os Occipitis and Os Sphenoides.
Condyloid Proceſs of Os Occipitis.	N——Placed obliquely.
Ridges of the Occiput.	O——Inferior Ridge of the Os Occipitis,—Superior Ridge,—and Vertical Spine.

FORAMINA OF THE SKULL.

1ſt, Foramen Orbitarium Superius.	a——Tranſmits a Twig of the 1ſt or Ophthalmic branch of 5th Nerve, and an Artery from the internal Carotid to the forehead.
2d, Foramen Orbitarium Anterius.	b——Tranſmits a branch of the Ophthalmic Artery, and Naſal branch of the 5th Nerve.
3d, Foramen Orbitarium Poſterius.	c——Tranſmits a branch of the Ocular Artery to the Noſe.
4th, Foramen Opticum.	d——Tranſmits the Optic Nerve and Ophthalmic Artery, ſent off from the Internal Carotid.
5th, Foramen Lacerum Orbitarium Superius.	e——Tranſmits 3d, 4th, 1ſt branch of 5th—part of 6th Nerve, with a branch of the internal Carotid to

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* It may be proper to obſerve, that the parts of the Ethmoidal and Sphenoidal bones, though numerous, muſt, in this view of the ſubject, be conſidered as ſingle bones.

the Eye: the anterior Dura Matral Artery, ſent from the external Carotid, likewiſe paſſes here.

6th, Foramen Rotundum.	f——Tranſmits 2d branch of 5th or ſuperior Maxillary Nerve.
7th, Fiſſura Spheno Maxillaris, or Foramen Lacerum Orbitarium Inferius.	g——Lodges fat, and transmits ſmall branches of the external Carotid Artery and Veins.
8th, Foramen infra-orbitarium.	h——Placed in general directly above the diviſion, between the anterior Molaris and poſterior Bicuſpidal Teeth. Tranſmits the Infra-orbitar, or ſuperior Maxillary Nerve, and Artery to the Teeth and Face.
9th, Lachrymal Canal.	i——Containing lachrymal ſac.
10th, Foramen Inciſivum.	k——Or anterior Palatine Foramen. Tranſmits the Palatine Twig of the internal Maxillary Artery to the Noſtril.
11th, Foramen Spheno Palatinum.	l——Transmits part of 2d branch of 5th Nerve—and Twig of external Carotid Artery.
12th, Foramina Palatina Poſteriora.	m——Transmitting the palatine Branch of 5th Nerve, and an Artery.
13th, Foramen Ovale.	n——Tranſmits 3d branch of 5th Nerve, or inferior Maxillary
14th, Foramen Lacerum.	o——Foramen Lacerum in Baſi Cranii, covered by a Membrane, the Internal Carotid Artery paſſes above this.
15th, Foramen Spinale.	p——Tranſmits Arteria Media Duræ Matris.
16th, Fallopian Canal.	q——Oſſeous Canal of Fallopian tube.
17th, Vidian Canal.	r——Situation of Vidian Foramen, beneath the margin of the ſpine of the Carotic Canal of Sella Turcica, tranſmitting a twig of 2d branch of 5th Nerve, which is reflected backwards to join the intercoſtal.
18th, Foramen Caroticum.	s——Carotic Foramen, tranſmitting Carotid Artery and Intercoſtal Nerve.
19th, Foramen Jugulare.	t——Or Foramen lacerum in baſi Cranii, made up of the Temporal and Occipital Bones, tranſmits Jugular Vein, par Vagum, and a branch from the Occipital Artery to the Dura Mater.
20th, Foramen Stylo-Maſtoideum.	u——Tranſmits Portio Dura of the 7th Nerve.

21ſt, Anterior Condyloid-hole.	v——Tranſmits 9th or Lingual Nerve.
22d, Poſterior Condyloid-hole.	w——Tranſmits Veins from the Integuments, to the Lateral Sinus of the Dura Mater—ſometimes wanting.
23d, Foramen Magnum Occipitale.	x——Tranſmits the Spinal Marrow, Nervus Acceſſorius of Willis, and Vertebral Arteries,—ſometimes Veins.
24th, Foramen Venoſum of Temporal and Parietal Bones.	y——Tranſmits Veins from the Integuments of the Head to the Sinuſes,—ſometimes wanting.
25th, Meatus Auditorius Externus.	z——External Oſſeous Canal of the Ear.

TEETH.

Teeth.	1—2. Inciſores. 3. Cuſpidatus. 4—5. Bicuſpides. 6—7. Molares. 8. Dens Sapientiæ.

Connection of the Sinuſes of the Scull and Noſtrils, ſee preparation 11.—Bones of the Ear, preparation 12. —Connection of Carotid Canal and Ear, preparation 13.

Internal Baſe of Scull, No. 9.

Divided into 3 Regions.

Anterior Region.	A——Compoſed of Os Frontis—Cribriform plate—Criſta Galli—Sella Turcica, and Little Wings of Ingraſias—ſuſtains anterior lobes of the Cerebrum.
Middle Region.	B——Compoſed of Great Wings of Ingraſias—ſquamous portion, and upper ſurface of petrous proceſs of Os Temporis, ſuſtains middle lobes of the Brain.
Poſterior Region.	C——Compoſed of the ſuperior Foſſulæ of the Os Occipitis, receiving the poſterior lobes of the Cerebrum—the Grooves of the Lateral Sinuſes, &c.—The inferior Foſſulæ of Os Occipitis, ſuſtaining the Cerebellum.—The Cuneiforum proceſs of the Os Occipitis, ſuſtaining the Pons Varolii, and beginning of the Medulla Spinalis.

FORAMINA.

Cribriform Foramina, and Foramen Cæcum.	1. Cribriform plate tranſmits 1ſt pair of Nerves—Foramen Cæcum, receiving the Falx and an Artery.
Foramina Optica.	2. Before the Anterior Clinoid Proceſs.
Foramina Lacera Superiora.	3. Formed between great and ſmall wings of Ingraſias.
Foramen Rotundum.	4. Behind the laſt.
Foramen Ovale.	5. Behind laſt.
Foramen Spinale.	6. Behind and external with reſpect to the laſt.
Carotid Canal.	7. Communicates with the lateral Foſſa of the Sella Turcica, where a ſpine oppoſite to the poſterior Clinoid proceſſes, marks its entry.
Meatus Auditorius Internus.	8. In the poſterior portion of Petrous Proceſs, divided into the ſuperior ſmall Orifice or Aquæduct of Fallopius receiving Portio Dura.—The other compoſed of perforations which tranſmit the Portio Mollis.
Foramen Lacerum, or Jugulare in Baſi Cranii.	9. Lying below the Meatus Auditorius Internus, tranſmits beginning of Jugular Vein, and Par Vagum, a Spine ſeparating them.
Anterior Condyloid Foramen.	10. Below the above, tranſmits 9th or Lingual Nerve.
VenousForamen.	11. The Venous Foramina, which are ſometimes wanting, are ſituated, when preſent, behind the Condyles of the Os Occipitis, and open into the lower portion of the Lateral Sinus.

Vertical Section of Scull No. 10.

(a) Sinus Frontalis—(b) Sinus Sphenoidalis—(c) Antrum Highmorianum—(d) Criſta Galli—(e) Spine or Groove of Falx—(f) Courſe of Longitudinal Sinus—(g) Lateral Sinus—(h) Courſe of Arteria Duræ Matris—(i) Os Naſi—(k) Os Spongioſum Inferius—(l) Foramen Spheno Palatinum – (m) Ethmoidal Cells, which terminate in the formation of the Os Turbinatum, or Infundibulum ſuperius.

OS HYOIDES.

Has its name from its reſemblance to the letter U —Situation in the Skeleton—Placed between the Chin and Larynx—Suſtains the Tongue—Conſiſts of

Body.	A——Body,—oblong,—concave poſteriorly,—convex anteriorly,—divided by a tranſverſe ridge, (4 and 7,) into ſuperior and inferior muſcular ſurfaces.
Cornua.	B——Cornua flatted and excavated in their longitudinal direction.
Appendicæ.	C——Appendicæ, to which a ligament from the Styloid Proceſs of the Temporal Bone is ſtretched.
	D——Tubercle.

MUSCLES.

Superior Margin.	1. Genio Hydoideus.
Anterior Portion, Middle Ridge.	4. Mylo Hyoideus.
Lateral Portion, Middle Ridge.	7. Stylo Hyoideus.
Middle Inferior Margin.	22. Sterno Hyoideus.
Laterally ditto.	23. Omo, or Coraco Hyoideus.
Cornu Poſteriorly.	8. Thyro Hyoideus.
Whole of Cornu.	25. Hyo Gloſſus.

VERTEBRÆ.

The Bodies are marked with figures denoting their ſituation in the Spine.

SPINE.

Has its name from the ancients comparing it to a Thorn.—Divided into Cervical,—Dorſal,—Lumbar,—and Falſe Vertebræ or Sacrum.

A Vertebra is compoſed of A, its body,—(b) 2 ſuperior oblique, or articulating proceſſes,—(c) 2 inferior articulating proceſſes,—(d) Spinous Proceſs; and (h) Foramen Magnum, which is made up of the parts enumerated, and forms the canal of the Spinal Marrow, from which the Nerves are ſent off.

The Vertebræ ſerve 4 principal purpoſes. 1. As ſuſtaining bodies. 2. They form what we may term a ſeries of ſimilar joints, by which means motion is performed without compreſſing the contained parts, or occaſioning concuſſions. 3. They defend the Spinal Marrow. 4. They form attachments for Muſcles.

Cervical Vertebræ, 7 in number.

2. viz. Atlas and Dentata performing particular offices, 5. Performing the common office of ſuſtaining and lengthening the Neck.

1. Atlas has no proper body,—ſomewhat of an annular ſhape,—A The anterior portion diſcriminated from the poſterior, by its being more flatted, and in contiguity with the articulating proceſſes.

Superior Articulating Proceſs.

b——Receives the Condyles, of the Os Occipitis, may be named ſuſtaining or Condyloid proceſſes; all theſe proceſſes have Cartilaginous ſurfaces.

Inferior Articulating Proceſs.

c——Situated Vertically below the laſt, may be named Rotating proceſs, as it turns on the Dentata: Its ſurface nearly horizontal in this Vertebra.

Tranſverſe Proceſs.

d——This is more extended than in the others. The Vertebral Artery paſſes through its Foramen, turning behind the Condyloid proceſs at (e). The Vertebral Arteries meet within the Cranium to form the Baſilary, and ſupply the Brain.

Behind the Articulating proceſs of the Atlas, the Groove (f) is ſeen, which tranſmits the Cervical Nerve.

Spinous Proceſs.

g——Poſteriorly, a little bifurcated.

Foramen Magnum.

h——Made up of the body and proceſſes already deſcribed.

† Portion on which the Dentata proceſs of the next Vertebra moves, which reduces the capacity of the Foramen to the ſize of thoſe beneath.

i——Lateral internal pits giving riſe to the lateral and tranſverſe Ligaments of the head.

k——Condyloid Scabrous Capſular Ligamentary portions.

DENTATA.

Body.

Has a body ſomewhat of an oblong ſquare,—its Conical Apex inferior, and declines more anteriorly than the reſt of the body;—has a ſcabrous inferior ſurface, which receives into its ſubſtance the Intervertebral Cartilaginous matter.

From the Body, the Dentata proceſs (a) is ſent upwards, which is tipped with Cartilage, and turns on the anterior portion of the Atlas, where a Cartilaginous ſurface receives it *. The perpendicular ligament ariſes from the Apex (1)—the Moderator Ligaments from the lateral portion (2)—and the tranſverſe Ligament paſſes at (3), behind the Tooth, to be fixed to the pits of the Atlas, Preparation Nº. 11.

Rotatary Proceſs. b——Or ſuperior Articulating proceſs, nearly horizontal.

Inferior Articulating, or Oblique Proceſs. c——Situated behind the Superior, ſo as to direct the weight of the Head between the Bodies and articulating proceſſes, obſerving an oblique direction; the Articulating Surfaces anterior. The other Vertebræ have their Articulating Proceſſes nearly Vertical, with reſpect to each other:—Between all the bodies of the Vertebræ there is an elaſtic Cartilaginous-like ſubſtance placed, of a conſiderable depth;—the Articulating Proceſſes are knit by proper Capſules; and there is a ſtrong Ligament paſſing along the anterior portions of all the Vertebræ.

d——Tranſverſe Proceſs, ſhorter than in the other Cervical Vertebræ.

e——Arterial Foramen.

f——Nervous Conduits of the Cervical Vertebræ, formed laterally between the poſterior portions of the Bodies and Articulating Proceſſes.—The upper portion of theſe Conduits being formed by the inferior part of the one Vertebra (ſee 2d Vertebra)—and the lower, by the ſuperior part of the one beneath (ſee 3d Vertebra).

Spinal Proceſs. g——Deep, and more bifurcated than in the Atlas—There is a Spine above, and a correſponding groove below, in all the Spinous Proceſſes of the Cervical

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* This Tooth-Proceſs fills up the Foramen Magnum, ſo as to reduce its capacity to the ſize of thoſe beneath.

Vertebræ, which are horizontal, to admit of bending the head backwards.

h——Foramen Magnum, ſormed by the parts enumerated; nearly circular.

‡ Furrow, or inferior Foſſa of Spinous Proceſs, which receives the ſharp Spine of the one beneath, in bending back the Neck. There is a Ligament ſtretched between them, likewiſe knitting the Vertebræ together; from which all the others may be underſtood.

Third and Fourth Vertebræ.

Body.	A——Bodies oblong, oval, aſſuming a cup-like ſhape (i) tranverſely.—Below, the ſides of the Cup (k) are formed anteriorly and poſteriorly;—by this means, in every action of the Head, there is a fixed point, preventing luxation by the extended ſurface preſented to the inſertion of the Intervertebral ſubſtance; theſe lateral ſuperior-cup portions become more inclined backwards as the Vertebræ deſcend.
Superior Articulating Proceſſes.	b——Their ſurface directed backwards, running up anteriorly in an oblique manner.
Inferior Articulating Proceſſes.	c——Their ſurface facing forwards, obſerving an oblique direction poſteriorly,—nearly perpendicular, beneath the ſuperior.
Tranſverſe Proceſſes.	d——Forming ſemilunated Conduits for the Nerves; ſurfaces for muſcular attachment; and containing a Foramen which tranſmits the Vertebral Artery.
Nervous Conduits.	f——Lie ſuperiorly and inferiorly between the Body and Articulating Proceſſes.
Spinal Proceſs.	g——Bifurcated, and longer than that of the Dentata.
Foramen Magnum.	h——Same as above, rather more oblong tranſverſely.

Fifth and Sixth Cervical Vertebræ.

Vary little from the above, only they have longer Spinal Apophyſes, and the ſides (i) of the Cup are directed more backwards as they deſcend, perhaps to counteract the danger of their falling back upon the Spinal Marrow, where the lever is lengthened.

Seventh Cervical Vertebra.

The inferior ſurface of its Body converging. Has not its Articulating Proceſſes ſo perpendicular with reſpect to each other as the above. Has not ſemilunated tranſverſe proceſſes; ſometimes two Foramina found tranſmitting the Vein and Artery. The Spinous proceſs not bifurcated.

Peculiarities of the Cervical Vertebræ.

Support the Head.—The ſuperior Vertebra admits of nodding;—the 2d, of Rotation;—the 5 inferior or common, by their horizontal Spinous Proceſſes, admit of bending and twiſting the Neck. The Spinous Ridge of each of the Spinous Proceſſes is received into the inferior furrow of the one above.

The Cervical Vertebræ have the peculiar office of tranſmitting the Vertebral Artery; this prevents the functions of the Artery from interruption;—this is likewiſe the neareſt route to the Brain.—Sometimes, however, the tranſverſe proceſſes of the inferior Vertebræ have no Foramina, the Artery paſſing on their outſide.

DORSAL VERTEBRÆ.

First Vertebra.

Body. Nearly the ſame dimenſions as the laſt Cervical, Tranſverſely an oblong, ſemilunated oval,—the Convexity anterior,—concavity poſterior. Theſe bones are diſtinguiſhed from the former by having no Foramina in the tranſverſe proceſſes. The lateral portions of the cups (i), thrown more backwards than thoſe of the Cervical Vertebræ, ſeemingly with the ſame view. They are alſo thrown backwards more and more in the ones beneath. At the ſame time, theſe parts decreaſe in their dimenſion progreſſively to the 6th, when they almoſt ceaſe. The Spinous proceſſes become likewiſe progreſſively more oblique to the 10th, and have leſs motion, and the lateral portions of the cups ceaſe entirely where the baſes of the bodies become more extended, which prevents dangers of luxation backwards.

Intervertebral Surfaces. B and C——The ſurfaces united to the intervertebral ſubſtances.

Articulating Proceſs. b and c——Similar in the arrangement of their ſurfaces to the Cervical.

Tranſverſe Proceſſes. d——Bent backwards, which lengthens the Lever of the Muſcles, and throws the Cheſt or Coſtæ backwards, ſo as to fall more conveniently on the outſide of the centre of gravity, as an antagoniſt to the anterior part of the Cheſt. There is, by this conformation, nearly equal quantities of the Thoracic Viſcera before and behind the Spine.

CoſtalDepreſſion. † Depreſſion of the head of the firſt Rib wholly in the body of this Vertebra; the inferior dimple receiving part of the Rib beneath, is not always conſpicuous.

Coſtal Depreſſion of Tranſverſe Proceſſes. ‡ Depreſſion of Tubercle of 1ſt Rib.

Nervous Canals. e——Superior, more ſuperficial than the Inferior.

SpinalApophyſes. g——Horizontal, ſimilar to the laſt Cervical.

Second Vertebra.

A little deeper in its body, in general ſimilar to the former, only the body receives part of the Rib above and below; each Vertebra thus receives half of the head of a Rib; ſometimes the ſuperior Coſtal depreſſion which receives the head of the Rib diminiſhes in its ſize to the 4th Rib, below which it becomes larger in proportion; but this does not always hold.

b and c——Articulating proceſſes, more converging than the former. ‡ Coſtal Depreſſion.

SpinalApophyſes. g——More oblique than former.

Third Vertebra.

Body. Deeper than laſt,—projects more, and is ſmaller anteriorly, from not being preſſed by the Muſculi Colli, as the 2d ſuperior.

The left ſide often hollowed by the action of the Aorta, this depreſſion is often traced to the laſt Dorſal.

Superior Lateral Cup Portions.	Not ſo deep as above.
Articulating Proceſſes.	b and c——Fall in a Vertical direction below the inferior articulating proceſs of the above Vertebra.
Spinal Proceſs.	g——More oblique than laſt, and more of the Vomer ſhape.

Fourth Vertebra.

Body.	Same in general as the laſt, but projects more anteriorly.
Superior Lateral Cup Portions.	i——Not ſo marked as in the laſt Vertebra.
Articulating Proceſſes.	b and c——Inferior ones begin to diverge more than the former.
Spinal Proceſs.	g——More oblique and more of the Vomer-ſhape than the ſuperior ones,—little or no motion takes place from this to the 10th Vertebra, that the important functions of the Thoracic Viſcera may be undiſturbed. As the Spinal proceſses become more oblique, the motion is limited; the ſuperior lateral or cup portions, taken notice of in the Cervical Vertebræ, becoming leſs obſerveable, as there would ſeem leſs danger of the Vertebræ falling backward upon the Spinal Marrow. The 10th, 11th, and 12th, have conſiderable motion, in conſequence of the more horizontal poſition of their Spinal proceſſes, but they have little or none of the cup-ſhape at their intervertebral ſurfaces, as the baſe is conſiderable; and the great number of Vertebral joints above, increaſes the ſtrength, ſo as to require leſs proviſion in this reſpect; this holds in the Lumber Vertebræ.

The Vertebræ increaſe in their dimenſions as they deſcend, except the Spinal proceſſes, which become ſhorter, but more deep; the Lever being lengthened, there would ſeem to have been the leſs need to increaſe their capacity. At the 9th Vertebra, the Spinal proceſs becomes in general ſhorter than in thoſe above, and more horizontal, admitting of conſiderable motion. The tranſverſe proceſſes of the 6th or 7th, generally the longeſt; after which they become ſhorter.

The 10th often receives the whole Rib on its body; The 11th and 12th always;—their tranſverſe proceſſes do not receive the Tubercles of the Ribs;—theſe Coſtæ floating with great freedom. The laſt Cervical Vertebra has a mixture of the characters of Cervical and Dorſal;—ſo likewiſe the laſt Dorſal participates of the Dorſal and Lumbar form; as theſe Vertebræ occupy a ſituation which ſubjects them to a deviation and mixture of office. The twelve Coſtæ from their varied formation, occaſion the Cheſt to aſſume ſomewhat the appearance of a double Cone. The Coſtal depreſſions of the Bodies and tranſverſe proceſſes being exactly adapted to this conſtruction: The ſurfaces of the ſuperior depreſſions incline a little downwards; the 5th and 6th nearly Vertical; and the inferior, more and more upwards as they deſcend.—The Canal of the Spinal Marrow becomes more circular and larger as it deſcends.

The intervertebral ſubſtances of the Dorſal Vertebræ are more compreſſed anteriorly than poſteriorly, which has been ſuppoſed by ſome to be advantageous, in conſequence of its occaſioning a Curvature, which increaſes the capacity of the Cheſt. This is, ſeemingly, not a juſt induction, as the Coſtæ and Sternum follow the curvature of the Vertebræ, from the Bodies and Proceſſes of which they ſpring; there is, therefore, neceſſarily an encroachment on the Cheſt, equal to the curvature.

Particular office of the Dorſal Vertbræ:—Suſtain the Coſtæ.

Lumbar Vertebræ Five in Number.

Diſtinguiſhable from the Dorſal by being more flatted in their bodies anteriorly,—leſs ſemilunated behind. Their Cartilaginous ſurfaces hollow, more indented with radii which receive the Cartilaginous matter into the ſubſtance of the Bone. Their bodies and tranſverſe proceſſes have no Coſtal cavities.

The 4 ſuperior Vertebræ increaſe as they deſcend, in all their parts, except that the tranſverſe proceſſes of the 3d or middle one are longeſt :—The inferior Articulating Proceſſes converging moſt at the ſuperior Vertebræ;—this, and the 2 beneath, have their Articulating Proceſses nearly vertical;—the two laſt diverge.

The ſuperior Articulating Proceſſes are oblong in their vertical direction ; concave in their tranſverſe.

The inferior are the converſe of the ſuperior. The inferior Articulating Proceſſes of the laſt Lumbar, ſemilunated, directed obliquely backwards—encreaſing the baſis of ſupport. The laſt Dorſal moves on the firſt Lumbar in a rotatory manner, from the Conſtruction of the Articulations, as all the Lumbar do on each other, from the ſame cauſe.

The ſemilunation of the Inferior Articulating Proceſs of the laſt, prevents motion on the Sacrum conſiderably, and increaſes the baſis of ſupport; the Spinal Proceſs not ſo broad in general as in thoſe above.

The tranſverſe Proceſs of the Middle Lumbar, the longeſt.

The two Superior being ſhorter, admit of the Ribs falling down laterally towards the Spine.—The two Inferior, being alſo ſhorter, admit of the Spine, bending towards the Oſſa Ilia.

The horizontal Spinous Proceſſes admit of bending backward; the deep intervertebral ſubſtances admit of bending forward.

A Ligament fills up the triangular ſpace between the Spinal Proceſſes of the Vertebræ.

The convergence of the inferior Articulating Proceſſes, as has been remarked in the Cervical and Dorſal, which fall ſomewhat vertically upon the Lumbar, would ſeem with the view of the ſuperior weight falling within or upon the centre of gravity of the laſt ſuſtaining Lumbar Vertebræ.

The Curvature at the Loins would ſeem a conſequence of the curvature at the ſuperior Dorſal Region, under which it bends as a centre of ſupport,—the former perhaps takes place in the Human Subject, as an effect of the weight of the ſuperior extremities.

MUSCLES CONNECTED WITH THE VERTEBRÆ.

First Vertebra of the Neck.

A——Longus Colli, Inſertion.
1. Rectus Minor Internus, Origin.
g——Rectus Poſticus Minor, ditto, and Inter-ſpinalis Colli, Inſertion.
d——Rectus Capitis Lateralis, Origin.
Splenius, Inſertion.
Levator Scapulæ, Origin.
Obliquus Capitis Superior, ditto.
Obliquus Capitis Inferior, Inſertion.
Scalenus Medius, Origin.
Inter-tranſverſalis Colli, Inſertion.

Second Vertebra.

2. Longus Colli, Inſertion.
d——Splenius, Inſertion.
Levator Scapulæ, Origin.
Tranſverſalis Colli, Inſertion.
Scalenus Medius, Origin, and Origin of the Inter-tranſverſalis Colli.
g——Multifidus Spinæ, Inſertion.
Semi-ſpinalis Colli, ditto.
g——Rectus Capitis Poſticus Major, Origin.
Obliquus Capitis inferior, ditto, and Inſertion of the Inter-ſpinalis Colli.
Multifidus Spinæ, Inſertion. This applies to the whole Cervical and Dorſal Vertebræ below.

Third Vertebra.

3. Longus Colli, Inſertion, and (d) its Origin.
g——Splenius Origin, and (d) its Inſertion.
Inter-ſpinalis Colli, ditto, and Inſertion of the Semi-ſpinalis Colli.
d——Rectus Capitis Internus Major, Origin.
Trachelo Maſtoideus, Origin.
Levator Scapulæ, Origin.

Tranſverſalis Colli, Inſertion.
Scalenus Medius, Origin, and Inſertion of the Intertranſverſalis Colli.

Fourth Vertebra.

4. Longus Colli, Inſertion, and (d) its Origin.
g——Splenius Origin, and (d) its Inſertion.
g——Semi-ſpinalis Colli, Inſertions, and Origins of Inter ſpinalis Colli.
d——Rectus Capitis Internus Major, Origin.
Complexus, Origin.
Trachelo Maſtoideus, Origin.
Levator Scapulæ, ditto.
Tranſverſalis Colli, Inſertion.
Scalenus Anticus.
Scalenus Medius, ditto, and Origin of the Intertranſverſalis Colli.

Fifth Vertebra.

5. Longus Colli, Inſertion, and (d) its Origin.
g——Splenius, Origin, and its Inſertion (d).
Rhomboideus Minor, Origin.
Serratus ſuperior poſticus, Origin.
Interſpinalis Colli, Inſertion.
d——Rectus Capitis Internus Major, Origin.
Complexus, Origin.
Trachelo Maſtoideus, Origin.
d——Levator Scapulæ, Origin.
Semi Spinalis Colli, ditto.
Tranſverſalis Colli, Inſertion.
Scalenus Medius, Origin.
Scalenus Anticus, ditto.
Scalenus Poſticus, ditto.
Intertranſverſalis Colli, Inſertion.

Sixth Vertebra.

6. Longus Colli, Inſertion, and (d) its Origin.
g——Trapezius, Origin.
Rhomboideus Minor, Origin.
Splenius Origin, and (d) its Inſertion.

Serratus ſuperior Poſticus.
Semi ſpinalis Dorſi, Inſertion.
Semi-Spinalis Colli, Inſertion.
Inter-ſpinalis Colli, Inſertion.
d——Rectus Capitis Internus Major, Origin.
Complexus, Origin.

Sixth Vertebra of the Neck.

d——Trachelo Maſtoideus, Origin,
Tranſverſalis Colli, Inſertion.
Scalenus Anticus, Origin.
Scalenus Medius, Origin.
Scalenus Poſticus, ditto.
Inter-tranſverſalis Colli, Inſertion.

Seventh Vertebra.

7. Longus Colli, Inſertion.
g——Trapezius, Origin.
Rhomboideus, Origin.
Splenius Origin, and (d) its Inſertion.
Serratus ſuperior Poſticus, Origin.
Semi-ſpinalis Dorſi, Inſertion.
Inter-ſpinalis Colli, Inſertion.
d——Complexus, Origin.
Trachelo-Maſtoideus, Origin.
Scalenus Medius, ditto.
Inter-tranſverſalis Colli, Inſertion.

First Vertebra of the Back.

1. Longus Colli, Origin.
g——Trapezius, Origin,
Rhomboideus Major, Origin.
Splenius, Origin.
Serratus ſuperior Poſticus, Origin.
Semi-ſpinalis Dorſi, ditto.
d——Longiſſimus Dorſi, Inſertion.
Complexus, Origin.
Trachelo Maſtoideus, ditto.
Semi-ſpinalis Colli, Origin.
Tranſverſalis Colli, ditto.

Second Vertebra.

2. Longus Colli, Origin.
g——Trapezius, ditto.
Rhomboideus Major, Origin.
Splenius, Origin.
Serratus ſuperior Poſticus, Origin.
g——Spinalis Dorſi, Inſertion.
Semi-ſpinalis Dorſi, Inſertion.
d——Longiſſimus Dorſi, Inſertion.
Complexus, Origin.
Trachelo Maſtoideus, Origin.
Semi-ſpinalis Colli, Origin.
Tranſverſalis Colli, Origin.

Third Vertebra.

3. Longus Colli, Origin.
g——Trapezius, Origin.
Rhomboideus Major, Origin.
Splenius, Origin.
Semi-ſpinalis Dorſi, Inſertion.
Spinalis Dorſi, Inſertion.
d——Longiſſimui Dorſi, Inſertion.
Complexus, Origin.
Trachelo Maſtoideus, Origin.
Semi-ſpinalis Colli, Origin.
Tranſverſalis Colli, ditto.

Fourth Vertebra.

g——Trapezius, Origin.
Rhomboideus, ditto.
Splenius, Origin.
Spinalis Dorſi, Inſertion.
Semi-ſpinalis Dorſi, Inſertion.
d——Longiſſimus Dorſi, Inſertion.
Complexus, Origin.
Semi-ſpinalis Colli, Origin.
Tranſverſalis Colli, ditto.

Fifth Vertebra.

g——Trapezius, Origin.
Latiſſimus Dorſi, Origin.

Rhomboidius, ditto.
Spinalis Dorſi, Inſertion.
Semi-Spinalis Dorſi, ditto.
d——Longiſſimus Dorſi, ditto.
Complexus, Origin.
Semi-Spinalis Colli, Origin.
Tranſverſalis Colli, Origin.

Sixth Vertebra.

g——Trapezius, Origin.
Latiſſimus Dorſi, Origin.
Spinalis Dorſi, Inſertion.
Semi-Spinalis Dorſi, Inſertion.
d——Longiſſimus Dorſi, ditto.
Complexus, Origin.
Semi-Spinalis Colli, Origin.

Seventh Vertebra.

g——Trapezius, Origin.
Latiſſimus Dorſi, Origin.
Spinalis Dorſi, Inſertion.
Semi Spinalis Dorſi, Inſertion.
d——Longiſſimus Dorſi, Inſertion.
Complexus, Origin.

Eighth Vertebra.

g——Trapeſius, Origin.
Latiſſimus Dorſi, Origin.
Spinalis Dorſi, Inſertion.
d——Longiſſimus Dorſi, Inſertion.
Semi-Spinalis Dorſi, Origin.

Ninth Vertebra.

g——Trapeſius, Origin.
Latiſſimus Dorſi, Origin.
Spinalis Dorſi, Inſertion.
d——Longiſſimus Dorſi, ditto.
Semi Spinalis Dorſi, Origin.

Tenth Vertebra.

g——Trapezius, Origin.
Latiſſimus Dorſi, Origin.

Spinalis Dorſi, ditto.
d——Longiſſimus Dorſi, Inſertion.
Semi-ſpinalis Dorſi, Origin.

Eleventh Vertebra.

g——Trapezius, Origin.
Latiſſimus Dorſi, Origin.
Serratus poſticus inferior, Origin.
Spinalis Dorſi, Origin.
d——Longiſſimus Dorſi, Inſertion.

Twelfth Vertebra.

12——Quadratus Lumborum, Inſertion.
Pſoas Magnus, Origin.
g——Trapezius, Origin.
Latiſſimus Dorſi, Origin.
Serratus poſticus inferior, Origin.
d——Longiſſimus Dorſi, Inſertion.

Muscles connected with First Vertebra of the Loins.

g——Latiſſimus Dorſi, Origin.
Serratus poſticus inferior, Origin.
Spinalis Dorſi, Origin.
Longiſſimus Dorſi, Origin.
Pſoas Magnus, Origin.
Pſoas Parvus, Origin.
b c & d——Multifidus Spinæ, Origin;—and g its Inſertion.
d——Quadratus Lumborum, Inſertion.

Second Vertebra.

g——Latiſſimus Dorſi, Origin.
Serratus poſticus inferior, Origin.
Spinalis Dorſi, Origin.
Longiſſimus Dorſi, Origin.
Crus of Diaphragm, Origin from the Body anteriorly, and a little laterally.
Pſoas Magnus, Origin.
Pſoas Parvus, Origin.
b c & d——Multifidus Spinæ, ditto;—g its Inſertion.
d——Quadratus Lumborum, Inſertion.

Third Vertebra of the Loins.

g——Latiſſimus Dorſi, Origin.
Serratus poſticus inferior, Origin.
Longiſſimus Dorſi, Origin.
Crus of the Diaphragm, Origin from the Body externally.
Pſoas Magnus, Origin.
b c & d——Multifidus Spinæ, Origin;—g its Inſertion.
d——Quadratus Lumborum, Inſertion.

Fourth Vertebra.

g——Latiſſimus Dorſi, Origin.
Longiſſimus, ditto.
d——Crus of the Diaphragm, Origin.
Pſoas Magnus, Origin.
b c & d——Multifidus Spinæ Origin;—g its Inſertion.
d——Quadratus Lumborum, Inſertion.

Fifth Vertebra.

g——Latiſſimus Dorſi, Origin.
Longiſſimus Dorſi, Origin.
d——Quadratus Lumborum, Inſertion.
Pſoas Magnus, Origin.
Iliacus Internus, Origin.
b c & d——Multifidus Spinæ, Origin;—g its Inſertion.

RIBS.

Generally 12 in number,—I have met with 11. Sometimes unequal numbers have been ſeen, as 11 on one ſide, and 12 on the other. There have been 13 found in ſome caſes.

We begin with the general characters of the Ribs, and afterwards point out their peculiarities.

Compoſed of Head—Neck—Tubercles—Angle—Body—Sides or Surfaces—and Margins.

Head. A——Divided into 2 portions by a Spine, the inferior portion generally greateſt. Theſe dimples are received by adapted portions of the Vertebræ; the Spine is inſinuated into the intervertebral ſubſtance.

Neck.	B——Scabrous for inſertion of Capſular ligament.
Sinus.	C——Containing Mucilaginous Glands.
Tubercle.	D——Turning on the tranſverſe proceſs of Vertebra.
Ligamentary Tubercle.	E——Not always conſpicuous, receiving Ligaments from each Rib, and the tranſverſe proceſſes.
Angle.	F——The Rib flatted between it and the Tubercle.
Body.	G——Curved.
External Convex Surface.	H.
Internal Concave Surface.	I.
Superior Convex Margin.	K.
Inferior Groove, or Sulcus.	L——Beginning at the angle, and terminating about the middle of the body, containing intercoſtal veſſels and nerves.
Cartilaginous Cup.	M——Bulbous, ſpongy, receiving the Cartilage into its ſubſtance.
Peculiarities.	1ſt and 3 laſt Ribs, are received by their heads entirely upon their proper Vertebræ. The 1ſt Rib is placed with its broad ſurfaces ſuperior and inferior,—its margins external and internal, has no Vaſcular Sulcus. The 2d, a little more inclined downwards externally, has a Vaſcular Groove as well as thoſe below, their Groove becoming more enlarged as they deſcend. The 3d, leſs inclined, their margins more ſuperior and inferior. The 7 upper Ribs continue to increaſe; theſe are named true Ribs, as their Cartilages reach the Sternum. The 5 lower ones, named falſe Ribs, their Cartilages not reaching the Sternum. The 3 upper falſe Ribs attached to the true, and each other, by their Cartilages. The angles of the Ribs increaſe as they deſcend. The 2 laſt falſe Ribs float; theſe and the one above not connected to the tranſverſe proceſſes of the Vertebræ. The Ribs form a double Cone.

MUSCLES CONNECTED WITH THE RIBS.

First Rib.

31. Subclavius, Origin.
9. Thyroideus, ditto.

13. Serratus Major Anticus, Origin.
22. Sterno Thyroideus, ditto.
23. Intercoſtales Externi.
23 †. Ditto Interni.
25. Sacro Lumbalis, Inſertion.
30. Scalenus Anticus, ditto.
30 †. Ditto Medius, ditto.

Second Rib.

13. Serratus Major Anticus, Origin.
23. Intercoſtales Externi.
23 †. Ditto Interni.
‡ Serratus Superior Poſticus, Inſertion.
25. Sacro Lumbalis, ditto.
29. Scalenus Poſticus, ditto.

Third Rib.

5. † Pectoralis Minor, Origin.
13. Serratus Major Anticus, Origin.
23 Intercoſtales Externi.
23 †. Ditto Interni.
†† Sterno Coſtalis, Inſertion.
‡ Serratus Superior Poſticus, ditto.
25. Sacro Lumbalis, ditto.

Fourth Rib.

5 †. Pectoralis Minor, Origin.
13. Serratus Major Anticus, ditto.
23. Intercoſtales Externi.
23 †. Ditto Interni.
†† Sterno Coſtalis, Inſertion.
‡ Serratus Superior Poſticus, ditto.
25. Sacro Lumbalis, ditto.

Fifth Rib.

1 †. Obliquus Externus, Origin.
3. Pectoralis Major, Origin.
5 †. Ditto Minor, ditto.
13. Serratus Major Anticus, Origin.
23. Intercoſtales Externi.
23 †. Ditto Interni.
†† Sterno Coſtalis, Inſertion.

‡ Serratus Superior Poſticus, Inſertion.
25. Sacro Lumbalis, ditto.
4 †. Rectus Abdominis, ditto.

Sixth Rib.

1. Obliquus Externus, Origin.
3. Pectoralis Major, ditto.
13. Serratus Major Anticus, ditto.
23. Intercoſtales Externi.
23 †. Ditto Interni.
25. Sacro Lumbalis, Inſertion.
4 †. Rectus Abdominis, ditto.

Seventh Rib.

1 †. Obliquus Externus, Origin.
14. Ditto Internus, Inſertion.
34. Tranſverſalis, Origin.
13. Serratus Major Anticus, ditto.
23. Intercoſtales Externi.
23 †. Ditto Interni.
25. Sacro Lumbalis, Inſertion.
4 †. Rectus Abdominis, ditto.
§ Diaphragma, Origin.

Eighth Rib.

1 †. Obliquus Externus, Origin.
14. Ditto Internus, Inſertion.
34. Tranſverſalis, Origin.
13. Serratus Major Anticus, ditto.
23. Intercoſtales Externi.
23 †. Ditto Interni.
25. Sacro Lumbalis, Inſertion.
§ Diaphragma, Origin.
4 †. Rectus Abdominis, ditto.

Ninth Rib.

1. Obliquus Externus, Origin.
14. Ditto Internus, Inſertion.
34. Tranſverſalis, Origin.
13. Serratus Major Anticus, ditto.
23. Intercoſtales Externi.
23 †. Ditto Interni.

25 Sacro Lumbalis, Inſertion.
§ Diaphragma, Origin.
26. Serratus Poſticus Inferior, Inſertion.

Tenth Rib.

1 †. Obliquus Externus, Origin.
14. Ditto Internus, Inſertion.
34. Tranſverſalis, Origin.
23. Intercoſtales Externi.
23 †. Ditto Interni.
25. Sacro Lumbalis, Inſertion.
§ Diaphragma, Origin.
26. Serratus Poſticus Inferior, Inſertion.

Eleventh Rib.

1 †. Obliquus Externus, Origin.
14. Ditto Internus, Inſertion.
34. Tranſverſalis, Origin.
23. Intercoſtales Externi.
23 †. Ditto Interni.
25. Sacro Lumbalis, Inſertion.
§ Diaphragma, Origin.
26. Serratus Poſticus Inferior, Inſertion.

Twelfth Rib.

1 †. Obliquus Externus, Origin.
14. Ditto Internus, Inſertion.
34. Tranſverſalis, Origin.
22. Intercoſtales Externi.
23 †. Ditto Interni.
25. Sacro Lumbalis, Inſertion.
§ Diaphragma, Origin.
26. Serratus Poſticus Inferior, Inſertion.

STERNUM.

Situation in the Skeleton;—Anterior middle portion of the breaſt, compoſed of 3 bones.

1ſt Bone. A——Like a wedge, Apex inferior. Concave internally; convex externally.

2d Bone.	B——Similar to the one above. Concave internally, convex externally.
3d Bone.	C——Pointed, and ſometimes Cartilaginous, hence named Cartilago Enſiformis.

Sternum receives the Clavicle and Cartilages of the ſeven true Ribs.

9 *Muscles connected with the Sternum.*

3. Pectoralis Major.
3 †. Subclavius.
4 †. Rectus Abdominis.
9. Sterno-Thyroideus.
22. Sterno-Hyoideus.
26. ———Maſtoideus.
34. Tranſverſalis Abdominis.
†† Sterno-Coſtalis.
§ Diaphragma.

Clavicle.

Situation in the Skeleton; on the ſuperior lateral portions of the Cheſt.

Like an *ſ*, the veſſels and nerves of the arm paſs beneath, and it affords an extenſive baſis to the actions of the Superior Extremity.

Conſiſts of body and 2 extremities.

Anterior or Sternal extremity.	A——Conical, an interarticular Cartilage placed between it and Sternum.
Anterior Tubercle.	B——Connected with 1ſt Rib.
Body.	C——Round above, ſomewhat Spiral.
Tubercle of Coracoid Ligament.	D——Poſterior end of Body.
Poſterior Triangle.	E——Or Acromion proceſs, which hangs over the head of the Os Humeri, gives riſe to the Capſul Ligament and to Muſcles.
CoracoidPortion.	F——Or Coracoid Proceſs.

5 *Muscles connected with the Clavicle.*

1. Trapezius.
2. Deltoid.
3. Pectoralis.
3 †. Subclavius.
26. Cleido-Maſtoideus.

OS SACRUM.

Situation in the Skeleton,
Termination of the Spine.
Triangular, Convex externally.

Compoſed of 5 Bones.	A——Concave internally, forms the poſterior Paries of the Pelvis. Divided into 5 portions.
Superior part of Body.	B——The ſuperior Oval Surface receives the inferior Intervertebral Subſtance interpoſed between this and the laſt Lumbar Vertebra.
Articulating Proceſſes.	b——Behind which we find the Articulating Proceſſes.
Sigmoid Scabrous Surface.	D——The ſuperior Lateral Sigmoid Surface receiving the Os Ilium.
Tranſverſe Proceſſes.	d——The Ridges, or unequal protuberances on the outſide of the Foramina, have got the name of Tranſverſe Proceſſes.
Spinous Proceſſes.	g——The middle Spine and Tubercles have the name of Spinous Proceſſes,—2 of which only are conſpicuous in general, from which 2 Spines are ſent down forming an open duct, G,—this is covered by a Membrane.
Conduit of Cauda Equina.	h——The Canal, formed by the Spinous Bridges, conducts the Cauda Equina. The anterior Foramina tranſmit the great Nerves of the lower extremities.
Poſterior Foramina.	I——The poſterior Foramina tranſmit ſmall Nerves, the greater part of them being covered by Membranes.
Inferior Angle.	K——The Sacrum ſeems placed as a ſupporter of the Spine, and reſting as a key-ſtone between the Oſſa Ilia.
Os Coccygis.	Very ſimilar in ſhape to the Sacrum,—compoſed of 4 Bones,— the Superior, which joins the lower part of the Sacrum, has a body and ſhoulders. This Bone has an interarticular body, where it joins the Os Sacrum, and preſerves its motion till 50 or 60 years of age, ſometimes later; the other 4 Bones diminiſh as they deſcend.

7 *Muscles connected with the Os Sacrum and Coccyx.*

(g) and Symphyſis, part of Origin of Internal Oblique —(g) and (d) part of Origin of Latiſſimus Dorſi,—(g) and (37) part of Origin of Multifidus Spinæ,—(gg) and (37) part of Origin of Longiſſimus Dorſi.

1. Gluteus Maximus.
4. Pyriformis.
14. Coccygæus.

OSSA INNOMINATA.

Divided into 3 Bones, which form the inferior lateral parts of the Abdomen, and lateral anterior parietes of the Pelvis.

The general appearance of the Bone is that of 2 Quadrants, their apices meeting.

OS ILLIUM.

a——Externally, this Bone is a little depreſſed anteriorly,—behind which it is gently curved, in its Vertical direction,—in its Tranſverſe View it riſes, —behind which it forms a Hollow Quadrant,—the poſterior portion projecting as the anterior.

Spine like an *ſ*.

A——This occaſions the ſuperior edge to aſſume the ſhape of an Italic *ſ*. This named Spine or Criſta of the Os Ilium, which is covered with Cartilage, and is thickeſt at the riſing anterior and poſterior portions we have mentioned.

Dorſum.

B——The external ſide named Dorſum.

Superior Anterior Spinous Proceſſes.

C——Anterior portion of Criſta.

Inferior Anterior Spinous Proceſſes.

D——Below the Semilunation deſcending from the laſt,

Poſterior Superior Spinous Proceſſes.

E——Poſterior extremity of Spine or Criſta.

Poſterior Inferior Spinous Proceſſes.

F——Depending point below laſt, before which is a Semilunation, to be named afterwards.

Acetabular portion of Ilium.

G——Baſe of Os Ilium, or inferior bulbous portion,

Internal View.	Nearly a regular hollow Quadrant internally, named Coſta.
Abdominal Region.	H——This portion bounded below by a Spine, the limit of the Abdomen.
Muſcular Sinus.	I——Sinus occaſioned by the paſſage of the Iliac and Pſoas Muſcles.
Pelvis Region.	K——Internal portion, is the Pelvis region of this Bone, the Pelvis being compoſed of the inferior termination of the Os Ilium (K), the poſterior termination of the Os Pubis (k), and the ſuperior poſterior portion of the Os Iſchium.
Sigmoid Cartilaginous Portion.	L——Above this is the Sigmoid Scabrous portion, receiving into its ſubſtance the interpoſed Cartilage between it and the Os Sacrum.
Ligamentary Portion.	M——The irregularities above give a firm baſis to the ligaments of the Os Sacrum and Ilium.
	m——Foramina of Medullary Veſſels.

11 *Muscles connected with the Os Ilium.*

Spine.	1 †. Obliquus externus,—Origin.
	14. Ditto internus, ditto.
	34. Tranſverſalis Abdominis, ditto.
	42. Quadratus Lumborum, ditto.
External Surface.	1. Gluteus Maximus, ditto.
	2. Ditto Medius, ditto.
	3. Ditto Minimus, ditto.
Internal Surface.	8. Iliacus Internus, ditto.
Junction with Pubis.	9. Pſoas Parvus, Inſertion.
Superior Anterior Spine.	8 †. Sartorius, Origin.
Inferior Anterior Spine.	14 † Rectus Cruris, ditto.

b—*Os Iſchium.*

This Bone forms 2 ſides of a Triangle, the upper ſide named aſcending Ramus.

Acetabulum.	N——The baſe or bulb of the greateſt ſide forms the greater half of the Acetabulum.
Spinous Proceſs.	O——The projecting portion behind this, is the Spinous proceſs of the Iſchium, forming in conjunction with the Spinous proceſs of the Os Ilium and Iſchium, the Ilio-Iſchiatic notch.

Tubercle.	P——The deſcending Bulbous portion is the Tubercle of the Os Iſchium.
Aſcending Ramus.	Q——The ſmall portion is the aſcending Ramus.

Internal View.

Brim of Pelvis.	R——Forms the brim of the Pelvis, or line between the regions of the Abdomen and Pelvis.

12 *Muscles connected with Os Iſchium.*

Spine.	14. Coccygæus, Origin.
	5. Gemini Superior, Origin.
	——— Inferior, ditto.
Tuber.	4. Biceps Cruris, ditto.
	5 §. Semitendonoſus, ditto.
	9 †. Semimembranoſus, ditto.
	6. Quadratus Femoris, ditto.
	60. Erector Penis, ditto.
Tuber and Ramus.	13. Adductor Magnus Femoris, ditto.
Internal Portion.	11. Levator Ani, ditto.
Ditto and Membrane.	12 †. Obturator Internus, ditto.
Anterior portion and Membrane.	§ ——— Externus, ditto.

OS PUBIS.

General appearance.	Forms 2 ſides of a triangle.
Acetabular Portion of Os Pubis.	S——The ſuperior bulbous portion is conical; the baſe finiſhing the Acetabulum.
Ridge of diviſion between the Abdomen and Pelvis.	T——Superior Ridge continued from the Ridge of Os Ilium. Superior hollow formed by the paſſage of the Muſcles from the Abdomen.
Vaſcular and Nervous Hollow	U——Spinal hollow below, tranſmits Obturator Veſſels and Nerves.
Deſcending Ramus.	V——Which joins the aſcending Ramus of Os Iſchium,
Anterior Scabrous Surface.	W——Anterior Scabrous portion receiving the Interpoſed Ligament of the Pubis.
Supercilium.	Y——Supercilium of Acetabular portions of the Os Ilium, Pubis, and Iſchium.

Notch and Supercilium.	Z——Notch acroſs which the Ligament of the Supercilium is ſtretched.
Foramen Ovale.	Thyroideum, or Obturator, formed by the junction of the Oſſa Iſchium and Pubis.

PELVIS.

Formed of Sacrum, lower internal portion of Oſſa Ilium, internal part of Oſſa Iſchium, and internal part of Oſſa Pubis.

The Os Sacrum, placed as a key-ſtone between the Oſſa Innominata,—the preſſure ſuſtained by the Oſſa Ilii. Pelvis forms a ſuſtaining arch for the Spine.

The Abdominal Viſcera ſuſtained by the Oſſa Pubis.

The open inferior part of the Pelvis thrown backwards, by which means the preſſure of the Viſcera is taken off the Anus.

Muscles connected with Os Pubis.

Symphyſis.	14 *. Rectus Abdominis, Origin.
	* Pyramidalis, ditto.
Deſcending Ramus.	10. Pectinalis, ditto.
	13. Adductor Longus Femoris, ditto.
	10 †. —— Brevis, ditto, ditto.
	13. —— Magnus, ditto, ditto.
	12. Gracilis, ditto.
Internal Portion and Membrane.	§ Obturator Externus, ditto.
External ditto and Membrane.	12 ‡. —— Internus, ditto.
Junction of Oſſa Pubis.	11. Levator Ani, ditto

SCAPULA.

Situation in the Skeleton.	Extends from nearly the 2d to the 8th Rib, when the arm hangs by the ſide, the Vertical Margin about 2 inches from the Spine.
Shape.	General ſhape triangular,—ſhorteſt margin ſuperior,—longeſt poſterior.
Deſcription, External Surface.	A——External ſurface convex, named Dorſum; an oblique irregular portion ſent out from it.

	B——Internal ſurface, concave; marked by the action of the Subſcapularis Muſcle;—kept from the Thorax by the Clavicle, on which all its motions are impreſſed.
Superior Coſta.	b——Superior Margin.
Inferior Coſta.	C——Anterior Margin.
Anterior Angle.	D——Head of Scapula, or anterior Angle.
Superior Angle.	E——Situated behind laſt.
Inferior Angle.	F——Situated below the two laſt.
Spinous Proceſs.	G——Biſecting the Scapula into unequal parts.
Acromion Proceſs.	H——Receiving the Clavicle at (h), and leaning over the arm bone, giving riſe to the capſule of the joint and its muſcles.
Glenoid Cavity.	K——Anterior ſuperficial hollow Cartilaginous ſurface.
CoracoidProceſs.	L——Springing poſteriorly from the head.
Semilunated Foramen.	M——Situated at the root of the Coracoid proceſs, over which a Ligament is ſtretched, the nerve and veſſels paſſing under it. The nerve always paſſes under it; but the blood veſſels frequently paſs above it.
Medullary Foramina.	N——Foramina of nouriſhing veſſels.

17 *Muscles connected with the Scapula.*

Above Spine.	22. Supra Spinatus, Origin, the hollow above Spine.
Superior Angle.	21. Levator Scapulæ, Origin.
Notch.	23. Coraco Hyoideus, Origin.
Spine Superiorly.	1. Trapezius, Inſertion partly.
Spine Inferiorly.	2. Deltoid, Origin partly.
Beneath Spine.	7. Infra Spinatus, Origin.
Inferior Coſta.	8. Teres Minor, Origin.
Inferior Angle.	12. Teres Major.
Baſe Superiorly.	‡ Rhomboides Minor, Inſertion.
Baſe Inferiorly.	* ——— ——— Major, ditto.
Cervix.	16. Triceps Longus, Origin.
Brim Glenoid Cavity.	13. ¶ Biceps Longus, Origin.
Coracoid Proceſs.	14. ——— Brevis, ditto.
	15. Coraco Brachialis, ditto.
	5 †. Pectoralis Minor, ditto.

Baſe.	13. Serratus Major Anticus, Inſertion.
Internal Surface.	10. Subſcapularis, ditto.

OS BRACHII, OR HUMERI.

Os Humeri.	Situation in the Skeleton; ſuſpended from the Scapula. General appearance; cylindrical, with a rounded head, and tranſverſe lower extremity.
Head.	A——Head, incruſted with Cartilage,—portion of a ſphere; double the ſize of the Recipient Cavity, which admits of all the motions of the Arm, ſuſtained in the Glenoid Cavity of the Scapula,—ſeldom touches the ſuperior part of the Glenoid Cavity.
Cervix.	B——Portion ſuſtaining the Head.
Small Tubercle.	C——Anterior.
Large Tubercle.	D——Poſterior.
Groove.	E——Bicipital Groove.
Body.	F——Twiſted, ſomewhat triangular—nervous impreſſion (g).
Spines.	G——Internal, external, and middle. The Extenſor Muſcles in general ariſe from the external ridges. Flexors in general from the internal.
Internal Condyle.	H——The moſt protuberant, lying below the ſphere of the Head.
External Condyle.	I——Leſs protuberant, lying below great Tubercle.
Ulnar Portion.	K——Next to the Internal Condyle, forms a double hinge.
Coronoid Depreſſion.	L——Anterior, receives the Coronoid proceſs of the Ulna.
Olecranon Depreſſion.	M—— Poſterior receives Olecranon proceſs of the Ulna.
Radial Spherical Portion.	O——Adjoining external Condyle.
Medullary Foramen.	P——Directed downwards.

25 *Muscles connected with the* OS HUMERI.

Great Tubercle.	22. Supra Spinatus, Inſertion.
	7. Infra Spinatus, ditto.
	8. Teres Minor, ditto.
Small Tubercle.	10. Subſcapularis, ditto.

Internal Margin. Bicipital Groove,	11. Latiſſimus Dorſi.——12. Teres Major, Inſertions.
External Margin.	3. Pectoralis Major, ditto.
Body, Superior Internal Portion.	15. Coraco Brachialis, ditto.
Ditto, Superior External Portion.	2. Deltoides, ditto.
Ditto, Inferior Anterior Portion.	9. Brachialis internus, Origin.
Ditto, Superior Poſterior Portion.	4. Extenſor Magnus, (brevis of Innies) Origin.
Ditto, Poſterior middle and lower Portion.	5. Extenſor longus Cubiti, Inſertion.
Ditto, Poſterior Inferior Portion.	17. Extenſor brevis Cubiti, (Brachialis externus Innies) Origin.
External Ridge.	13. † Supinator radii longus, ditto. 14. Extenſor Carpi radialis longior, ditto. 15 †. ——————— brevior, ditto.
External Condyle.	36. Supinator radii brevis, ditto. 22 †. Anconæus, ditto. 24 †. Extenſor Carpi Ulnaris, Origin. 20 Extenſor Digitorum Communis, ditto.
Internal Condyle.	22 ‡. Pronator Teres, ditto. 23. Flexor Carpi radialis, ditto. 24. Palmaris longus, ditto. 25. Flexor Sublimis Perforatus, ditto. 26. Flexor Carpi Ulnaris, ditto.

ULNA.

Situation in the Skeleton; appended to the Os Humeri. General appearance; compoſed of a great irregular, ſuperior end, triangular body, and ſmall extremity inferiorly.

Superior Portion.

Humeral Semilunation, or Sigmoid Cavity.	A——Divided by a longitudinal Spine, which forms the double hinge, and conſequent ſafety of the Joint.
Glenoid, or Radial Cavity of the Ulna.	B.——Internally, in which the Radius turns.

Olecranon Proceſs.	C——Poſterior or Elbow.
Coronoid Proceſs.	D——Anterior.
Glandular Foſſa, and Capſular Portion.	E——Internally, the Scabracous parts give inſertion to the Capſule.
Body.	F——Convex outer ſurface.
Spine.	G——Internally, giving riſe to the Interoſſeous Membrane.

Inferior Portion.

Head and Neck.	H.
Radial Margin of Head, & Styloid Proceſs.	I——Convex, ſemilunated, admitting the rotation of the Radius, the Styloid proceſs giving riſe to a Ligament, connecting it to the Carpus. Medullary Veſſels directed upwards.

15 *Muscles of the Ulna or Cubitus.*

Coronoid Proceſs, and Portion immediately below.	22 ‡. Pronator Radii Teres, Origin.
	25. Flexor Sublimis Perforatus, ditto.
	23. Flexor Carpi Radialis, ditto.
	9. Brachialis Internus, Inſertion.
	5. Flexor Profundus Perforans, Origin.
Olecranon Proceſs.	22 §. Triceps Extenſor Cubiti, Inſertion.
Poſterior Portion beneath the Olecranon.	22 †. Anconæus, Inſertion.
	36. Supinator Radii Brevis, Origin.
Poſterior Ridge.	26. Flexor Carpi Ulnaris, ditto.
	24 †. Extenſor Carpi Ulnaris, Origin.
	33. Indicator, ditto.
Internal Ridge.	16. Extenſor Oſſis Metacarpi Pollicis Manus, ditto.
	17. ——— Primi Internodii, ditto.
	18. ——— Secundi ——— ditto.
Inferior Anterior Portion above the ſmall Head.	4. Pronator Radii Quadratus, ditto.

RADIUS.

Situation in the Skeleton; appended to the Humerus. General appearance; ſuperior extremity ſmall and round. Body triangular. Inferior extremity large and bulbous.

Head.	A——Round, with a hollow ſuperior ſurface,—performs Flexion, Extenſion, and Rotation, on the Os

Humeri. The deep part of the Margin rotates in the Ulnar Sigmoid Cavity.

Neck.	a——Supporting Head.
Tubercle.	C——Below Rotatory Margin.
Body.	D.
Convex Side.	E——Externally.
Ridge.	F——Internally, giving riſe to Interoſſeus Membrane.
Bulbous Extremity.	G——Or Carpal extremity.
Scaphoid, or Carpal Surface.	H——Receives two Bones of the Carpus,—their ſituation marked by a tranſverſe Ridge.
PoſteriorSurface.	I——Convex, marked by the Tendons of the extenſor Muſcles;—(a) paſſage of Tendons of Extenſor Communis;—(b) paſſage of Tendons of Thumb Extenſors;—and (c) paſſage of Extenſor Radialis Longior and Brevior.
Styloid Proceſs.	K——Externally, giving riſe at the bulb of the margin to the Capſular Ligament.
Anterior Concavity.	M——Over which the Flexors paſs. Medullary Veſſels directed upwards.

7 *Muscles of the Radius.*

Outer Portion of Tubercle.	36. Supinator Radii Brevis, Inſertion.
Tubercle.	14. Biceps Flexor Cubiti, ditto.
Interoſſeal Spine.	25. Flexor Sublimis Perforatus, Origin.
Anterior Middle Portion.	†. Flexor Pollicis Longus, ditto.
Inferior Anterior Portion.	4. Pronator Radii Quadratus, Inſertion.
Middle of Outer Margin.	22 ‡. ———— Teres, ditto.
Styloid Proceſs Externally.	13. Supinator Longus, ditto.

CARPUS.

Compoſed of 2 rows of Bones. The Superior annexed to the great lower end of the Radius. The Inferior to the Superior extremities of the Metacarpal Bones, which ſuſtain the Fingers.

Radial chain of Carpal Bones, reckoning from the Thumb ſide of the Hand.

Os Scaphoides.	a.——

Os Lunare.	b.——
Os Cuneiforme.	c——On which is ſuſtained
Os Piſiforme.	d.——

Metacarpal Chain of Bones.

Os Trapezium.	e——Suſtaining the Thumb and outſide of the Index.
Os Trapezoides.	f——Suſtains moſt of the Index and upper portion of the middle Finger.
Os Magnum.	g——Suſtains moſt of the middle, and a ſmall portion of the ring Finger.
Os Unciforme.	h——Suſtains moſt of the ring, and the whole of the little Finger.

The nouriſhing veſſels enter at the anterior and poſterior Scabrous Portions, where the Ligaments are ſtretched, where they enjoy a ſituation not ſubject to interruption.

9 *Muscles of the Carpus.*

Os Trapezium.	16. Extenſor Oſſis Metacarpi Pollicis Manus, Inſertion partly.
	19. Abductor Indicis, Origin, partly.
	30. Abductor Pollicis, ditto.
	30 †. Flexor Oſſis Metacarpi Pollicis, ditto.
Os Trapezoides, Magnum and Unciforme.	31. Flexor Brevis Pollicis Manus, ditto.
Os Piſiforme.	Flexor Ulnaris.
Os Unciforme.	35. Abductor Minimi Digiti, ditto.
	35 †. Abductor Metacarpi.
	Flexor Parvus Minimi Digiti.

METACARPUS.

Thumb.	i——Os Metacarpi Pollicis Manus.
Os Metacarpi Indicis.	k——Received by lateral portion of Trapezium, anterior correſponding ſurface of Trapezoides, and correſponding portion of Metacarpal Bone adjoining.
Os Metacarpi Medii Digiti Manus.	l——Received by ſmall portion of Os Trapezoides, inner correſponding portion of Index, anterior correſponding ſurface of Os Magnum, and outer correſponding portion of ring Finger.
Os Metacarpi Annularis Digiti Manus.	m——Received by inner correſponding portion of middle Finger, part of Os Magnum, Os Unciforme, and little Finger.

Os Metacarpi Minimi Digiti Manus.	n——Received by ring Finger, and correſponding ſurface of Os Unciforme.
Baſe.	o——Baſe, or upper end.
Body.	p——Dorſum Flated, Spinous, anteriorly.
Head.	q——Convex ſegment receiving the fingers.

The nouriſhing veſſels enter, principally, at the extremities of theſe bones.

Theſe bones are diſtinguiſhed from the Metatarſus by being ſhorter and thicker. The backs, from the baſe to the head, formed into a flat triangular ſurface.

27 *Muscles connected with the Metacarpus and Fingers.*

2d Bone of Fingers.	25. Flexor Sublimus Perforatus, Inſertion.
Laſt Bone of Fingers.	5. Flexor Profundus Perforans, ditto.
Metacarpal Bone Index.	14. Extenſor Carpi Radialis Longior. ditto.
Middle Finger, ditto.	15. ——— ——— ——— Brevior, ditto. † Metacarpi.
Metacarpus, Thumb.	16. Extenſor Oſſis Metacarpi, Pollicis Manus, Inſertion.
2d Bone ditto.	17. ——. Primi —— —— ditto.
3d Bone ditto.	18. —— Secundi —— —— ditto.
1ſt Bone Index.	19. Abductor Indicis Manus, ditto.
Back of Fingers.	20. Extenſor Digitorum Communis, ditto.
Metacarpal Bone Index anteriorly.	23. Flexor Carpi Radialis, ditto.
Metacarpal Bone Little Fidger.	24 †. Extenſor Carpi ulnaris, ditto.
Os Piſiform and Metacarpal Little Finger.	26. Flexor Carpi ulnaris, ditto.
1ſt Bone of Thumb.	30. Abductor Pollicis Manus, ditto.
Metacarpus ditto.	30 †. Opponens or Flexor Oſſis Metacarpi Pollicis, ditto.
1ſt Bone Thumb, Oſſa Seſamoidea.	31. Flexor Brevis Pollicis Manus, Inſertion.

Ariſes from the Metacarpus, inſerted Iſt Bone Thumb.	32. Adductor Pollicis.
Index.	33. Indicator, Inſertion.
Iſt Bone Little Finger.	35. Adductor and Flexor Parvus Minimi Digiti, ditto.
Metacarpus do.	35 †. Adductor Minimi Digiti.
Interoſſi.	61. Prior Indicis.
	62. Poſterior ——
	63. Prior Annularis.
	64. Poſterior ——
	65. Prior Medii.
	66 Poſterior ——
	67. Interoſſeus Auricularis.

THUMB.

O——Os Secundi Pollicis Manus.

P——Os Tertii Pollicis Manus.

Oſſa Seſamoidea are ſmall bones formed at the roots of the joints of the Thumb,—the index and little finger,—ſometimes at the tendons of the Gaſtronemii Muſcles, &c. when preſent, they are always formed where capſules of joints or tendons are ſubjected to conſiderable compreſſion, having their inner ſurface adapted to the outer convex ſurface of the joint.

FINGERS.

The ſimilar chain of bones, arranged by the ſide of each other in the Fingers, have been named Phalanges.

q——The firſt Phalanx—(t) Baſe—(u) Body, convex poſteriorly (and a little flatted) concave anteriorly —(v) Head double concave hinge.

r——The ſecond ſhorter, parts ſimilar.

s——The third, baſe bulbous,—the body terminates in a ſcabrous ſemilunar margin.

The nouriſhing veſſels enter principally about the margins of the joints.

FEMUR.

Situation.	Situation in the ſkeleton;—Pillar of the trunk movin the Acetabulum.

Shape.	General ſhape;—Cylindrical, with Bulbous extremities.
Head. Pit.	A——The Head of the bone, ſpherical; (a) its Ligamentary pit.
Cervix.	B——Cervix; there are many varieties obſerveable in the obliquity of its direction.
Trochanter.	C——Trochanter Major.
Foſſa.	D——Foſſa receiving muſcular attachments.
Trochanter.	E——Trochanter Minor.
Linea Aſpera.	F——Linea Aſpera—the lower F marks its point of Bifurcation,—(f) internal Furca of the Linea Aſpera,—(g) external
	(b).——The body of the bone, generally curved or bent forward; the ſurface rounded anteriorly, inclining to triangular poſteriorly, where it approaches the Linea Aſpera.
Internal Condyle.	G——Internal Condyle, which is ſometimes found more depending in women than men, in conſequence of their having the knees in general a little bent inwards.
External Condyle.	H.
Foramina.	I——Foramina of nouriſhing veſſels paſs upward.
Ligamentary Foſſa.	K.
	L——Surface on which the Patilla moves.

20 *Muscles connected with the Os Femoris.*

Superior Portion Linea Aſpera.	1. Gluteus Maximus, Inſertion.
Trochanter Major.	2. ——— Medius, ditto. 3. ——— Minimus, ditto.
Foſſa behind Trochanter Major.	4. Pyriformis, ditto. 5. Gemini, ditto. 12. Obturator Internus, ditto. § Obturator Externus, ditto.
Between Trochanters.	6. Quadratus Femoris, ditto.
Linea Aſpera.	4 †. Biceps Flexor Cruris, Origin.
Trochanter Minor.	8. Iliacus Internus, Inſertion. 9. Pſoas Magnus, ditto.
	10 †. Brevis, ditto.
Linea Aſpera.	10 ‡. Pectinalis. 10. Adductor Longus Femoris, ditto. 13. ——— Magnus, ditto. 10 †. ——— Brevis, ditto.

Linea Aſpera.	15. Vaſtus Externus, Origin.
	16. —— Internus, ditto.
Anterior Surface of Bone.	35. Cruralis, ditto.
External Condyle.	30. Plantaris, ditto.
	39. Popliteus, ditto.
Condyles.	12. Gaſtroenimius Externus, ditto.

TIBIA.

	Situation in the ſkeleton;—Suſtains the Femur.
Shape.	General ſhape;—A double Pyramid, the large baſe uppermoſt, the ſmaller Inferior.
Internal Condyle.	A,
External Condyle.	B——Between which are the Tubercles (b), which give origin to the Crucial Ligaments.
Body.	C——Triangular, compoſed of three Spines; viz. (c) anterior,—(d) external,—(e) internal, and 3 ſides,—(f) poſterior,—(g) external,—(h) internal.
Tubercle.	D——Superior anterior Tubercle, or Tubercle of the Patella.
Baſis.	E——Scaphoid, or Aſtragular portion.
Malleolus Internus.	F——Or Styloid proceſs.
Fibular Cavity.	G——Inferior external Foſſa.
Attachment.	H ——Superior attachment of Fibula.
	I——Medullary veſſels paſs downward.

9 *Muscles connected with the Tibia.*

Internal part Tubercle.	5 ‡. Semitendinoſus, Inſertion.
	8 †. Sartorius, ditto.
	9. Semimembranoſus, ditto.
	12 †. Gracilis, ditto.
	14 †. Flexor Longus Digitorum Pedis, Origin.
	18. Extenſor Longus Digitorum Pedis, ditto.
Outer Side.	19. Tibialis Anticus, Origin.
Poſterior Side.	33. ——— Poſticus, ditto.
Head Poſteriorly.	39. Popliteus, Inſertion.

PATELLA.

Situation in the Skeleton;—moving Pulley, placed between the Femur and Tibia.

Surfaces.	(a)——Anterior ſurface,—(b) poſterior,—(c) ſuperior Margin,—(d) Apex,—(e) the greater ſurface connected with the outer Condyle,—(f) the leſſer ſurface connected with the inner.

Four Muscles connected with Patella.

Upper Margin.	14. Rectus, and Crureus at c.
Laterally.	16. Vaſtus Internus, and 15 Externus.
	From (d) ariſes the Ligament of the Patella.

FIBULA.

	Situation in the Skeleton;—Outſide of the Tibia, its Auxillary.
Shape.	Oblong, triangular, with Bulbous extremities.
Head.	(a)—Head,—(b) articulating portion of Head.
Articulating Portion.	(c)—Articulating portion of lower end.
Malleolus Externus.	(d)—Named Malleolus Externus, or Styloid proceſs, which internally receives the outer ſurface of the Aſtragalus.
Spines.	(e)—Internal Spine the longeſt, giving riſe to the Inter-Oſſeal Membrane.
	(f) Poſterior Internal Spine.
	(g)—Poſterior External Spine.
	(h)—External round ſurface.
Foramina.	(i)—Medullary veſſels directed downwards.

5 Muscles connected with the Fibula.

Top of Fibula.	4 †. Biceps Flexor Cruris, Inſertion.
Superior Anterior Margin.	17 §. Peroneus Longus, Origin.
Beneath the Longus.	20 *. ——— Brevis, ditto.
PoſteriorMargin.	16. Flexor Longus Pollicis Pedis, ditto.
AnteriorPortion.	21. Extenſor Proprius Pollicis Pedis, ditto.

Foot, composed of Tarsus, Metatarsus, and Toes.

TARSUS.

Os Calcis.	(a)—Os Calcis, ſuſtaining the three following principal, or great bones, viz.
Aſtragalus.	(b)—Aſtragalus, which receives the Tibia and Fibula ſuperiorly and laterally,—(c) ſmall portion receiving (d) Os Naviculare; and (e) receiving the poſterior portion of (f) Os Cuboides. The Os Naviculare receives on its anterior ſurface the poſterior ſurfaces of the 3 following bones: (g) Cuneiforme Internum, or Maximum,—(h) Cuneiforme Medium, or Minimum,—(i) Cuneiforme Externum, (which is of a middle ſize between the former and latter) and (k), a portion of internal ſide of Os Cuboides.

13 *Muscles of the Tarsus.*

Os Calci Poſteriorly.	13 †. United tendon of Gaſtroeinimius, or tendo Achilliſa. Inſertion.
Toes.	14 †. Flexor Longus Digitorum Pedis, ditto.
Laſt Bone Great Toe.	16 ———— Pollicis —— ditto.
Os Cuneiforme Internum.	17. Peroneus Longus, ditto.
Ditto.	19. Tibialis Anticus, ditto.
Os Calcis.	22. Extenſor Brevis Digitorum Pedis, Origin.
Os Calcis.	30. Plantaris, Inſertion.
Os Naviculare Cuneiforme Internum.	33. Tibialis Poſticus, ditto.
Os Calcis.	36. Abductor and Flexor Brevis Minimi Digiti, Origin.
	37 ———————— Pollicis Pedis, ditto;
	38 †. Abductor Pollicis Pedis, ditto.
	38. Flexor Brevis Digitorum Pedis, et Maſſa Carpea, ditto.
	71. Abductor Indicis, ditto.

METATARSUS.

(k) Bone of the great Toe received entirely on the anterior portion of (g). (i) Bone of the 2d Toe, received on the anterior portion of (h), and between the lateral portion of (f) and (h). 3d Bone, received by the anterior portion of (i), and wedged by proper ſurfaces between the lateral portions of the ſuperior extremities of the 2d and 3d Toes. 4th Bone, received by the lateral anterior Angle of (i), the outer ſurface of the 3d Bone, the correſponding anterior ſurface of (f), and of the internal portion of the ſmall Toe. 5th Bone received by the above, and the anterior correſponding portion of (f).

Peculiarities of the Metatarsal Bones.

That belonging to the great Toe, large, with 2 bulbous extremities,—the 2d Bone longeſt,—3d Bone ſhorter, diſtinguiſhed by its ſuperior outer ſurface, having a triangular direction with the Baſe towards the upper part of the Bone. 4th Bone has a larger ſcabrous ſuperior extremity than the laſt, ſimilar otherwiſe. 5th Bone, or ſmall Toe, large oblique tuberculated upper extremity,—theſe are diſtinguiſhable likewiſe by the ſurfaces correſponding to the Tarſal Bones. The Bones of the ſmall Toes, viewed in general, aſſume ſomewhat of a Pyramidal ſhape,—the Baſe ſuperior, terminating in a round head, that of the ſmall Toe curved inwards,—where the baſis (k) ſends off the long portions of the Bones, the portion (i) may be named the Bodies, which terminate in the Head which receives the Toes. Theſe Bones are diſcriminated from the Metacarpal, by being longer, thinner, and marked by a Spine on the Dorſum,—the Heads more narrow, though aſſuming nearly the ſame convex ſhape.

The Toes are ſimilar to the Fingers in their general conſtruction,—the great Toe is thicker and longer than the Thumb,—ſmall Toes ſhorter; the Tarſus and Metatarſus compoſe an arched hollow ſuſtaining Pedeſtal of the Body.

Muscles connected with the Metatarsus and Toes.

Laſt Bone, Small Toes.	14 †.	Flexor Longus Digitorum Pedis, Inſertion.
Ditto, Great Toe.	16.	—— ——— Pollicis, ditto.
Metacarpus, Little Toe.	20.	Peronæus Brevis, ditto.
Small Toes.	18.	Extenſor Longus Digitorum Pedis, ditto.
Os Cuneiforme Internum.	19.	Tibialis Anticus.
Superior Parts of Great Toe.	21.	Extenſor Proprius Pollicis.
1ſt Bone Little Toe.	30.	Abductor, and Flexor Brevis Minimi Digiti.
Seſamoid Bones.	37.	Abductor and Flexor Brevis Pollicis Pedis.
Small Toes.	38.	Flexor Brevis Digitorum Pedis.
Seſamoid Bones.	38 †.	Abductor Pollicis.
	70.	Lumbricales Pedis.
Interoſſei.	71.	Abductor Indicis Pedis.
	72.	Adductor —— ——
	73.	———— Medii Digiti Pedis.
	74.	Abductor Tertii Digiti.
	75.	Abductor Medii ——
	76.	Adductor Tertii ——
	77.	Adductor Minimi ——
	78.	Tranſverſalis Pedis ——

The Articulations and Ligaments of Bones, I have not thought it neceſſary to enumerate, as they may be eaſily collected from Authors.

MUSCLES. *

3 Pair Muscles on the Forehead, and poſterior parts of Cranium, viz.:

Frontalis, Occipitalis, and Corrugator Supercilii.

1. Frontalis. P 1.---F. 1. Covering the Sinciput,—mingling with 2, 8, and 9. This in moſt caſes is very thin and pale, and the fat ſo intermixed with the Carneous Fibres, that it muſt not be too nicely diſſected off, otherwiſe there will be danger of deſtroying the natural appearance of the Muſcle. U,—protrudes the Eyebrows when

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* I would recommend viewing the contents of the Cranium, Cheſt, and Abdomen, in as early a ſtage of the Diſſection as poſſible. The Muſcles of theſe parts ſhould therefore be diſſected firſt. The Cheſt ought to be opened previous to the Abdomen, as its contents preſerve the Diaphragm and Heart in Situ, which are not eaſily underſtood, when the Diaphragm falls down looſe and flaccid, in conſequence of the previous removal of the Abdominal Viſcera. I ſhall mention the Muſcles of the above parts, in the order in which they ought to be removed; they are repreſented in the Drawings, and may be ſeen deſcribed in their proper place.

Muscles of the Head, to be dissected and removed previous to opening the Cranium.

Occipito Frontalis,—Sphincter Oculi,—Corrugator Supercilii,—Attollens Aurem,—Retrahentes Auris,—Anterior Auris,—Temporalis.

Muscles of the Chest.

Platyſma Myoides,—Pectoralis Major,—Ditto Minor,—Subclavius,—Intercoſtales,—Sterno-coſtales.

Muscles of the Abdomen.

Obliquus Externus,—Ditto Internus,—Tranſverſalis- Rectus,—and Pyramidalis.

when drawn downwards, or wrinkles the Forehead by contracting upwards. Its Tendon runs along 15, (P 1—F. 1.) and is the common Tendon of the poſterior Muſcle next to be mentioned.

2. Occipitalis. ————19. *A*——Os Occipitis 19. Its Tendon, after joining 15 in its courſe, unites with the laſt, of which it is the opponent.

3. Corrugator Supercilii. Is covered by (2), occupies Superciliary Ridge from (b) to (3). *U*. contracts Frontalis in frowning, or protrudes the Eye-brows to ſhade the Eyes from offenſive rays, &c.

3 *Pair Muscles of the External Cartilage of the Ear* *: viz.

Attollens Aurem, Anterior Auris, and Retrahentes Auris.

1. Attolens Aurem. ————16. *A*——15,—*I*. 31, or root of Cartilaginous Canal of External Ear,—*U*. raiſes the Ear upwards.

2. Anterior Auris. ————17. *A*——Zygoma,—*I*. 30 anteriorly,—*U*. draws forward the Ear.

3. Retrahentes Auris. ————18. *A*——Maſtoid Proceſs. *I*. Root of Cartilaginous Canal of external Ear.

The other Muſcles enumerated by Anatomiſts, as belonging to the external Ear, I have left out. In the human ſubject they are ſo indiſtinct, as in many caſes to elude the obſervation of the Diſſector.

4 *Pair Muscles of Internal Ear*, viz.

Externus Mallei, Laxator Tympani, Tenſor Tympani, Stapedius.

1. Externus Mallei. *A*,—Spinous Proceſs of Os Sphenoides, at its Apex,—paſſes through the fiſſure of Articular Cavity of Os Temporis, to be inſerted into the Manubrium Longum of Malleus, —*U*. relaxes the Tympanum.

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* P. 1—F. 1. Component parts of the External Ear. 30 Helix; 31 Antihelix; 32 Semilunar Foſſa; 33 Scapha; 34 Tragus; 35 Internal Crus; 36 Concha; 37 Antitragus; the Superior Looſe Cartilage has the general name of Pinna; the inferior depending portion (38) named Lobulus, or inferior Pinna.

2. Laxator Tympani.	*A*——Superior edge of Membrana Tympani,—*I.* Manubrium,—*U.* aſſiſts the former.
3. Tenſor Tympani.	*A*——Trumpet mouth of Euſtachian Tube, and Spinous proceſs Os Sphenoides,—paſſes in its proper canal between the ſquamous bone and labyrinth. Inſerted poſterior portion of the ſmall proceſs of Malleus,—*U.* draws the Tympanum inwards.
4. Stapedius.	Incloſed in a hollow cone near the Maſtoid cells,—*I.* head of Stapes,—*U.* moves the Stapes obliquely.

EYE.

Puncta Lachrymalia.	The Puncta Lachrymalia are to be viewed previous to diſſecting the Muſcles of the Eyes. They are ſmall Papillary bodies, one belonging to each eye lid, ſituated oppoſite to each other, at the inner Canthus or angle of the Eye; in the middle prominent point, the Foramina which tranſmit the tears are diſtinctly ſeen, between which the Caruncula is placed, a reddiſh body ſtudded with hairs.

2 *Pair Muſcles of the Eye-Lids, viz.*

Orbicularis Palpebrarum, or Sphincter Oculi, Levator Palpubræ Superioris.

1. Orbicularis Palpebrarum, P 1—F.—1.2*.	Theſe circular bundles of Fibres cover a conſiderable portion of Os Frontis, Os Malæ, and Os Maxillare Superius. They are attached to a Tendinous or Ligamentous body, which ſprings from the ſuperior portion of the Naſal proceſs of ſuperior Maxillary bone.—*U.* Shuts the Eye-Lids.
2. Levator Palpebræ Superioris. ——— 3.	*A*——Foramen Opticum of Os Sphenoides, running along the cieling of the Orbit,—is inſerted into the upper Eye-Lid. *U.* Lifts the Eye-Lid.
Lachrymal Gland.	Lachrymal Gland is ſound embedded in the Foſſa of the orbitar vault, at the external Canthus.
Tunica Conjunctiva.	The anterior portion of the Eye is covered by a reflection of the Cuticula named Tunica Conjunctiva, and may be ſeparated by diſſection to the Lucid Cornea, but not eaſily carried farther.

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* P 1.–F. 1.–3. Palpebræ, the Cartilaginous Margins named Tarſi, which have the Cilia or Hairs inſerted into them.

6 *Muſcles of the Eye-Ball.*

5 of them ſpring from the Sphenoid bone around the Foramen Opticum ſurrounding the nerve; viz. 4 Recti-Levator;--Adductor—Depreſſor and Abductor Oculi—and ſuperior Oblique—the 6th, or inferior Oblique, ariſes from the Orbitar plate of the Os Maxillare Superius.

1. Levator Oculi. See Preparation.

A F——Superior portion of Foramen Opticum, beneath Levator Palpebræ.

I T——Superior anterior portion of Sclerotic coat.—*U.* turns the Eye upwards.

2. Adductor Oculi.

A F——Inſide of Foramen Opticum.

I T——Inner portion of the ſphere of the Eye as above. *U.* turns the Eye towards the Noſe.

3. Depreſſor Oculi.

A F——Inferior Margin of Foramen Opticum.

I T——Inferior portion of the ſphere as above. *U.* turns the Eye downwards.

4. Abductor Oculi.

A F——Outer Margin Foramen Opticum, inſeted.

I T——Outer Segment of the ſphere. *U.* directs the Eye outwards [*]

5. Obliquus Superior.

A F——Between the Levator and Adductor Muſcles,—its Tendon paſſes through the Cartilaginous Pulley, at the inner Angle of the Eye, from which it is reflected obliquely backwards to be expanded on the ſphere behind and beneath the Tendon of the Levator. *U.* directs the pupil downwards and obliquely towards the outer Canthus.

6. Obliquus Inferior.

A F——Internally from the anterior margin, Orbitar plate, Os Maxillare Superius, terminating behind the Tendon of the Abductor. *U.* oppoſes the laſt.

1 *Pair Muſcles properly belonging to the Noſe, and 2 Pair common to it and the Upper Lip, viz.*

Compreſſor Naris,—Levator Alæ Naſi,—Depreſſor Labii Superioris Alæque Naſi.

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[*] The Tendons of the 4 Recti Muſcles which are diffuſed over the anterior ſphere of the Eye, and which may be diſſected to the Lucid Cornea, have received the name of Tunica Albuginea.

1. Compreſſor Naris.
P 1.–F. 1.–19.
A——Root of Alæ Naſi,—the Fibres diffuſed obliquely upwards on the Dorſum to join their fellows, and the Frontal Muſcle. *U.* contracts the Alæ Naſi.

2. Levator Alæ Naſi.
——— 8.
A——Summit of Naſal proceſs of Os Maxillare Superius. *I.* Ala Naſi. *U.* raiſes or Dilates the Ala.

3. Depreſſor Labii Superioris Alæqui Naſi.
A——Os Maxillare Superius, diffuſed beneath the former. *I.* Ala, and Sphincter Oris. *U.* draws the Noſe downwards, and protrudes the Lip.

3 *Single, and 6 pair Muscles of the Lips.*

3 ſingle, viz. Orbicularis or Sphincter Oris,—Depreſſor Labii Inferioris,—Levator Labii Inferioris.

6 pair, viz. Levator Proprius,—Zygomaticus Major,—Zygomaticus Minor, (ſometimes wanting)—Levator Anguli Oris,—Buccinator,—Depreſſor Anguli Oris.

1. Orbicularis Oris.
——— 12.
A. ſingle Muſcle compoſed of circular fibres ſurrounding the lips, the rings diffuſed to a conſiderable extent, as ſeen in the drawings. *U.* contracts the mouth, ſomewhat like the drawing together of a purſe.

Into this Muſcle all the others are interwoven.

2. Depreſſor Labii Inferioris.
——— 11.
A——Os Maxillare Inferius. *I.* Sphincter Oris. *U.* depreſſes the Lip.

3. Levator Labii Inferioris.
A——Os Maxillare Inferius, lying within the laſt. *I.* Orbicularis Oris. *U.* to pout the lower lip as in deriſion, &c.

1. Levator Labii Superioris Proprius.
——— 7.
A——Os Maxillare Superius. *I.* Sphincter Oris, adjoining 8. *U.* draws the Lip upwards.

2. Zygomaticus Major.
——— 4.
A——Os Malæ. *I.* angle of the mouth. *U,* expreſſes laughter.

3. Zygomaticus Minor.
——— 5.
A——Os Malæ. *I.* adjoining 7. *U.* aſſiſts the Major.

4. Levator Anguli Oris.
——— 6.
A——Os Maxillare Superius. *I.* angle of the mouth. *U.* draws the Lip obliquely upwards.

5. Buccinator. ——— 13.

A——Os Maxillare Superius & Inferius. *I.* angle of the mouth. *U.* Theſe muſcles form the lateral Parietes of the mouth,—ſerve to enlarge its capacity,—contract upon the morſel with a view to roll it about,—expel the air from the mouth, &c.

6. Depreſſor Anguli Oris. ——— 10.

A——Os Maxillare Inferius. *I.* angle of the mouth. *U.* opponent of the Levator.

Platyſma Myoides.
P 3.--F. 1.–a

Jugular Vein and Glands,
See Preparations 21ſt and 22d.
Parotid Gland.

Parotid Duct.

There is a ſuperficial muſcle, named Platyſma Myoides, which frequently ſtretches to the Zygoma—covers moſt of the Maſſeter, is diffuſed over the whole neck, and reaches to the upper part of the breaſt. This is a very thin Muſcle in the human ſubject, beneath which, in general, lies the external Jugular Vein. The Cervical or Jugular Glands which are numerous, are alſo found here. In removing the Integuments, the Parotid Gland muſt be carefully attended to,—it occupies the ſpace from the anterior portion of the Meatus of the ear, and runs along the Zygoma,—it alſo covers a great portion of the Maſſeter, and part of it lies behind the Condyle of the lower Jaw, its Duct paſſing nearly parallel to, but a little lower than the Zygomaticus Major,—whence it paſſes forward to penetrate the middle of the Buccinator Muſcle.

5 *Pair Muſcles of the Lower Jaw.*

1. Temporalis, P 1—F. 1——15.

A——Os Parietale. *I.* Os Maxillare Inferius. *U.* brings the jaws together.

2. Maſſeter. ——— 14.

A——Os Malæ, and Temporis. *I.* Lower Jaw. *U.* aſſiſts the former.

3. Pterygoideus Internus*.

A——1 †. Pterygoid proceſs Os Sphenoides. *I.* 1 †. Os Maxillare Inferius. *U.* moves the lower jaw laterally.

4. Ditto Externus.

A—— 2 Pterygoid proceſs ditto. *I.* 2 Os Maxillare Inferius. *U.* aſſiſts the laſt.

Digraſticus. ———. 21.

A. F——Os Temporis. *I.* Os Maxillare Inferius. *U.* opens the Mouth when the Os Hyoides is fixed, or the lower Jaw remaining fixed; this Muſcle will raiſe the Os Hyoides, to which its middle Tendon is attached.

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* Previous to diſſecting the Pterygoid Muſcles, the Maxillary Gland is to be noticed; which is ſituated at the internal ſurface of the lower jaw; its duct terminating near the Frænum Linguæ. See Plate 1.—F. 1,–20.

2 *Muscles on the Superior Margin of the Os Hyoides,* viz [*].

Mylo Hyoideus, Genio Hyoideus.

1. Mylo Hyoideus. P 1.—F. 4.—4 [†]. *A F*——Lower Jaw. *I F*, Os Hyoides. *U.* elevates the Os Hyoides towards the chin when both act; or this is done obliquely on one ſide, when only one acts.

2. Genio Hyoideus. P 1.—F. 5.—-1. *A F*——Lower Jaw. *I F*, Os Hyoides. *U.* ſame as the former.

4 *Pair Muscles of the Tongue,* viz.

Hyogloſſus, Stylo Gloſſus, Genio Gloſſus, and Lingualis.

1. Hyo Gloſſus. F. 4. & 5.—-25. *A F*——Os Hyoides. *I.F.* ſide of the Tongue, the Fibres being continued to the tip. U, depreſſes the Tongue, and draws the tip backwards,—may alſo ſhorten the Tongue, or when only one acts, incline it to one ſide.

2. Stylo Gloſſus. F. 2. 4. & 5—‡. *A T* and *F*——Styloid proceſs, and its Ligament [§]. *I.* ſide of the Tongue above the laſt,—the Fibres running to the tip. *U*, when both act, the Tongue will be drawn obliquely upwards;—or when only one acts, it will be elevated obliquely at one ſide.

3. Genio Gloſſus. F. 5.———2. [‖] Named likewiſe Genio-Hyo-Gloſſus. *A. T* lower Jaw. *I.* whole middle portion of the Tongue, in its Longitudinal direction,—and likewiſe a ſmall portion into the Os Hyoides. *U.* thruſts the Tongue out of the mouth, brings it forwards, &c.

4. Lingualis. *A*——Root of the Tongue laterally, running to the tip,—between theſe (the Membrane of the Tongue being removed) there appears an upper layer of

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[*] Sterno Cleido Maſtoideus (which is a lateral Muſcle of the Head, and does not come properly in here), muſt be diſſected in order to view the parts to be mentioned. See this Muſcle among thoſe of the Head.

[†] Theſe Muſcles ſuſtain the Sublingual Glands, the Ducts of which open near the roots of the Tongue.

[§] The Ligament ſtretched between the Styloid proceſs and the Os Hyoides, is repreſented P. 1—F. 2—9, lying between ‡ and 7.

[‖] 4 Membrane of the Mouth.

longitudinal Fibres, traverſing its whole length, which ſhorten or curl up the Tongue, when the middle is drawn downwards, or fixed by the lower Muſcles,—below this, lies a ſtratum of tranſverſe Fibres (terminating in a middle Tendon) which contract this Body in its lateral direction. The Tongue is entirely compoſed of theſe tranſverſe and longitudinal Fibres, and the Muſcles enumerated as moving it.

3 *Pair Muſcles on the Inferior Margin of Os Hyoides*, viz.

Sterno Hyoideus, Coraco Hyoideus, and Thyro Hyoideus.

1. Sterno Hyoideus.
F. 1.——22.

A F——1ſt Rib and Sternum. *I.* Os Hyoides. *U.* depreſſes the Os Hyoides.

2. Coraco Hyoideus.
————23.

A F——Scapula. *I.* Os Hyoides *.

3. Thyro Hyoideus.
F. 1. 4. 5.——7.

A F——Os Hyoides. *I F.* inferior margin of the Thyroid Cartilage. *U.* moves the Os Hyoides, or Thyroid Cartilage; when one of theſe bodies is fixed, the other is moved towards it by the contraction of the Muſcle.

Thyroid Gland.†

Is a ſemilunated Body, with its convex ſide ſituated downwards,—lying tranſverſely along the margin of the Cricoid Cartilage,—the Cornua, which point upwards, inſinuated ſometimes beneath the upper attachments of the Sterno Thyroideus Muſcle. The Sterno Hyoidei paſs over the middle of this Gland.

Thymus.

The Thymus is rarely conſpicuous in the Adult; in the Fœtus it is ſituated between the ſuperior great veſſels of the Heart, and the Sternum, ſtretching to the Thyroid Gland, in the ſhape of 2 oblong Bodies. I have met with it conſiderably enlarged in the Adult, and ſuch ſubjects were invariably affected with breaſt complaints.

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* This Muſcle has generally a middle Tendon, where it is covered by the Sterno Cleido Maſtoideus; but I have found it repeatedly entirely carneous.

† Repreſented in a ſtate of Diſeaſe, P. 1.—F. 2.—11.

2 *Pair Anterior Muſcles of the Larynx*, viz.

Sterno Thyroideus, and Crico Thyroideus.

1. Sterno Thyroideus.
F. 4.——9.

A F——Sternum. *I F.* inferior margin of Thyroid Cartilage. *U.* depreſſes the Cartilage.

2. Crico Thyroideus.
F. 5.——9 †.

A F——Cricoid Cartilage. *I F.* Inferior Cornu, and baſe of Thyroid Cartilage. *U.* directs theſe Bodies towards each other.

4 *Pair Muſcles of the Pharynx*, viz.

Stylo Pharyngeus, Conſtrictor Pharyngis Superior, Conſtrictor Pharyngis Medius, and Conſtrictor Pharyngis Inferior.

1. Stylo Pharyngeus.
F. 2. 4. 5.——†

A F——Styloid Proceſs. *I F.* Thyroid Cartilage, expanding on the Pharynx. *U.* raiſes or dilates the Pharynx, according as the particular Fibres act. See Drawing.

2. Conſtrictor Pharyngis Superior.
F. 2.——1.

A F——From the Genio Gloſſus, Hyo-Gloſſus, Buccinator, Cuneiform proceſs of Os Occipitis, Pterygoid proceſs of Os Sphenoides,—both Jaws, at the laſt Dens Molaris,—root of the Tongue,—Stylo Pharyngeus,—Circumflexus Palati. The Fibres aſcend obliquely to meet their fellows. *U.* contracts upon the Morſel, ſo as to diſlodge, or thruſt it down the Oeſophagus.

3. Conſtrictor Pharyngis Medius.
————2 †.

A F——Os Hyoides, Ligaments of Os Hyoides, and Thyroid Cartilage, the Fibres aſcend as the former. *I F.* Cuneiform proceſs of Os Occipitis. *U.* ſame as the laſt.

4. Conſtrictor Pharyngis Inferior.
F. 2.——3.

A F——Thyroid Plate, aſcends as the laſt to meet to meet its fellow. *U.* as above *.

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* All theſe Muſcles paſs down within each other, as ſeen in the Drawing; the 1ſt Conſtrictor is covered by the Stylopharyngeus, this lies within the middle Conſtrictor, &c. by which means their power is increaſed.

At the ſuperior poſterior part of the Mouth, there are two arches obſervable; from the anterior is ſuſpended a Nipple-like Body named Uvula. The Amygdalæ lie between the arches. See Preparations.

4 *Pair Muſcles, and a ſingle one, at the entry to the Pharynx,* viz.

Palato Pharyngeus, Conſtrictor Iſthmi Faucium, Levator Palati, and Circumflexus Palati.

1. Palato Pharyngeus. *A F*——Poſterior part of the Velum Pendulum Palati, or Curtain of the Pharynx, mixes with the Circumflexus, runs in the direction of the Poſterior Arch of the Pharynx, and mingles with the Superior Pharyngeal Muſcles. *I.* Superior and poſterior portion of the Thyroid Cartilage. *U.* contracts the Fauces, and prevents the curtain from being thrown irregularly backwards into the poſterior Nares.

2. Conſtrictor Iſthmi Faucium. *A F*——Velum Pendulum Palati anteriorly, mingling with its fellow and the laſt Muſcle, and runs in the courſe of the anterior arch of the Pharynx. *I.* poſterior root of Tongue. *U.* contracts the Fauces.

3. Levator Palati. *A T* & *F*——From the Oſſeous and Cartilaginous parts of the Euſtachian Tube. *I.* poſterior portion of the Velum. *U.* fixes the Velum in the action of ſhutting the Noſtrils.

Circumflexus Palati. *A*, *T*, and *F*——Os Sphenoides—alſo Euſtachian Tube, runs along the origin of the internal Pterygoid Muſcle, and turns tendinous around the hook of the internal Pterygoid plate. *I.* into the Velum, add external margin of the Palate plate, Os Palati. *U.* draws the Velum upwards.

Azygos Uvulæ. *A F*——Poſterior portions of the Palate plates, Oſſa Palati,—and is the depending portion of the Velum of the Pharynx. *U.* contracts the middle of the Velum, when its Longitudinal fibres act *.

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* Plate I. Fig. 3. repreſents parts of the Oeſophagus and Lyrynx---(a) Thyroid Cartilage---(b) Lateral portion of Cricoid Cartilage---(c) Cartilaginous ſemilunar rings of Trachea---(d) Its poſterior tranſverſe muſcular fibres and glandular bodies---(e) Inner Membrane of the Oeſoplagus, lifted from the poſterior parts of the Trachea which it covered---(f) The Pharyngeal Muſcles which cover the Membrane---(g) Oeſophagus---[4] Cornua of Arytenoid Cartilages---Fig. 6th, p. 1ſt, Repreſents at [g] the lateral gutter by which the Saliva glides by the outer ſide of the Rima to reach the Oeſophagus when there is no effort made by ſwallowing.

6 *Pair Muſcles of the Glottis, and* 1 *Single Muſcle, viz.*

Crico Arytænoideus Poſticus,—Crico Arytænoideus Lateralis,—Thyreo Arytænoideus,—Arytænoideus Obliquus,—Thyreo Epiglotideus,—Arytæno Epiglotideus.

1. Crico. Arytænoideus Poſticus.
—— F 3. ——i.

A. F——From the poſterior plate of the Cricoid Cartilage, leaving the projecting middle ridge unoccupied,—the fibres directed obliquely upwards. *I. F.* baſe of the Arytænoid Cartilage. *U.* opens the Rima Glottidis, and, by pulling back the Arytænoid Cartilage, ſtretches the Ligament till it becomes tenſe.

2. Arytænoideus Lateralis.
—— F 3. ——

A. F——Cricoid Cartilage laterally—the fibres aſcending towards the Arytænoid. *I. F.* into the ſide and baſe of the Arytænoid Cartilage. *U.* opens the Rima Glottidis, by pulling the Ligaments from each other.

3. Crico and Thyreo Arytænoideus.
——— k.

A. F—— Internal middle portion of the Thyroid plate,—the fibres obſerving an oblique direction upwards. *I.* Arytænoid Cartilage above the laſt. *U.* pulls the Arytœnoid Cartilage forwards to the middle of the Thyroid, and ſhortens the Ligament of the Larynx.

4. Arytænoideus Obliquus.
————h

Or Crucialis,—*A.* from the baſe of one Arytænoid Cartilage, and decuſating its fellow, ſtretches to be inſerted at the Apex of the other. *U.* brings the Cartilages together.

5. Thyreo Epiglottideus.

A——By a very ſmall ſet of fleſhy fibres, and ſtretches from the Thyroid Cartilage to be inſerted into the ſides of the Epiglottis. *U.* draws the Epiglottis obliquely downwards, or, when both act, flattens the Cartilage, and draws it directly downwards.

6. Arytæno Epiglottideus.

A. F——From the anterior margins of the Arytænoid Cartilages. *I.* into the Epiglottis. Theſe Muſcles run along the gutter, at the ſides of the Glottis. *U.* contracts the Glottis.

Arytænoideus Tranſverſus. —— F 3. ——i.	Is a ſingle muſcle. *A. F*—poſterior margin of one Arytenoid Cartilage. *I. F.* poſterior margin of the other. *U.* contracts the Rima.

4 *Pair Muſcles of the Head Anteriorly.*

Rectus Capitis Anticus Major,—Ditto Minor,—Rectus Capitis Lateralis.

1. Rectus Capitis Anticus Major.	*A*——Anteriorly, 3d, 4th, and 6th Vertebræ of the Neck. *I.* Os Occipitis. *U.* bends the head forwards, or, acting on one ſide, brings the Head ſideways.
2. Rectus Capitis Anticus Minor.	*A*——Body of the Atlas, anteriorly. *I.* Os Occipitis, beneath the former. *U.* ſame as the laſt.
3. Rectus Capitis Lateralis.	*A*——Atlas. *I.* Os Occipitis. *U.* bends the Head ſideways.
4 Sterno Cleido Maſtoideus. —F 1——26.	*A*——Sternum, and Clavicle. *I.* Os Occipitis. *U.* turns the Head ſideways, and bends it forward.

Previous to diſſecting the poſterior Muſcles of the Head, the Trapezius, Rhomboides, and Serratus ſuperior Poſticus, (which ſee) ſhould be removed.

8 *Pair Muſcles of the Head poſteriorly.*

Trapezius—Splenius—Complexus—Rectus Capitis Poſticus Major—Trachelo Maſtoideus—Rectus Capitis Poſticus Minor—Obliquus Capitis Superior—Ditto Inferior.

1. Trapezius.	See Muſcles of Scapula, page 84.
2. Splenius. P iv. F 2.—26.†	Situated beneath the Trapezius; running obliquely from the Os Occipitis towards the Vertebræ. *A. T.* (g) four ſuperior Dorſal Vertebræ, and 5 inferior Cervical. *I. T.* (d) five ſuperior Cervical Vertebræ, (26) Os Occipitis, and Maſtoid proceſs. *U.* inclines the Head and Neck to one ſide, or when both act, directly backwards.

3. Complexus. —F 2. & 3.—20. Superior part ſituated between the laſt Muſcle and its fellow. A pin is paſſed at (20) beneath its firſt Origin.

A. F——(d) Seven ſuperior Dorſal Vertebræ, and four inferior Cervical. *I. T.* and *F.* Os Occipitis. *U.* inclines the Head obliquely backwards, or, when both act, directly backwards;—it may alſo bend back the Neck only.

The five following Muſcles ſituated beneath the Splenius and Complexus.

4. Rectus Capitis Poſticus Major. —F 4.—29. *A. F*——Vertebra Dentata. *I.* Os Occipitis. *U.* Rotates the Head, or bends it backwards, when both act.

5. Trachelo Maſtoideus. —F 3.——27. *A. T*——(d) Five inferior Cervical, and three ſuperior Dorſal Vertebræ. *I.* Maſtoid proceſs. *U.* aſſiſts the Complexus.

6. Rectus Capitis Poſticus Minor. —F 4.——30. *A. F* (g)——Atlas. *I.* Os Occipitis. *U.* that of the former.

7. Obliquus Superior Capitis. —F 4.——17. *A* (d)——Atlas. *I.* Maſtoid proceſs. *U.* When both act, incline the head backwards; when one, laterally.

8. Obliquus Capitis Inferior. —F 4.——31. *A* (g)——Dentata. *I.* (d), Atlas. *U.* Rotates the Head.

1 *Pair Muscle of the Neck, Anteriorly.*

Longus Colli—Rectus Capitis Anticus Major—Rectus Capitis Anticus Minor—Rectus Capitis Lateralis.

1. Longus Colli. *A. T.* and *F*——3d, 4th, 5th, 6th, Cervical Vertebræ and three ſuperior Dorſal. *I.* into all the Cervical Vertebræ. *U.* when one acts, inclines the Neck ſide-ways; when both, forward.

7 *Pair Muscles Laterally* *.

Levator Scapulæ—Tranſverſalis Colli—Cervicalis Deſcendens—Scalenus Anticus—Scalenus Medius—

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* The Scaleni may be ranked in this claſs, as to part of their office; their action, as Muſcles of reſpiration,

Scalenus Poſticus—Intertranſverſales Colli.

1. Levator Scapulæ. —F 2.——21.	*A F*——Scapula. *I. T.* and *F.* (d) five ſuperior Cervical Vertebræ. *U.* moves the Neck or Scapula, as either is fixed.
2. Tranſverſalis Colli. —F 4.——25.	Situated between the Splenius and Trachelo Maſtoideus. *A T* (d)——Five ſuperior Cervical Vertebræ. *I.* (d) ſeven inferior ditto. *U.* Inclines the head obliquely backwards.
3. Cervicalis Deſcendens. —F 3.——28.	Situated on the outſide of the former. *A F* —From the Sacro Lumbalis. *I T.* (d) of the 4th, 5th, and 6th, Cervical Vertebræ. *U.* aſſiſts the former.
4. Scalenus Anticus. P 5.—F 4——†	Lateral Muſcles of the Neck,—*A. T.* and *F.* 1ſt Rib. *I.* (d) 3d, 4th, 5th, and 6th ſuperior Cervical Vertebræ.
5. Scalenus Medius.—30.	*A. F*——1ſt Rib. *I. T.* (d) all the Cervical Vertebræ. *U.* aſſiſts the laſt.
6. Scalenus Poſticus.—29.	*A. F*——1ſt Rib. *I.* (d) *T.* 5th and 6th Cervical Vertebræ. *U.* ſame as former.
7. Inter-tranſverſales Colli. —F 4.——33.	Ariſe from, and inſerted into, all the tranſverſe proceſſes of the Cervical Vertebræ. *U.* to turn the Neck.

6 *Pair Muscles Posteriorly.*

Trapezius—Splenius—Complexus—Semi-ſpinalis Cervicis—Inter-ſpinalis Cervicis—Multifidus Spinæ.

1. Trapezius.	See Muſcles of Scapula, Page 84.
2. Splenius.	See poſterior Muſcles of the Head, Page 74.
3. Complexus.	See poſterior Muſcles of the Head.
4. Semi-ſpinalis Cervicis, —F 4.——34.	Situated beneath the Complexus. A pin is paſſed at (34) beneath the firſt tendinous origin. *A. T.* (d)——6 ſuperior Dorſal Vertebræ, (g) 2d, 3d, 4th, 5th, 6th, Cervical Vertebræ. *U.* extends the Neck backwards.

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will be noticed in the proper place. The lateral Muſcles are enumerated before the poſterior as this ſeemed more regular. The Splenius and Complexus, from their lying above ſome of the Laterales, muſt be previouſly removed.

5. Inter-ſpinales Cervicis. —F 4.——32.	Small double Muſcles placed between the bifurcated Spinous proceſſes of the Cervical Vertebræ. *U.* to draw them together.
6. Multifidus Spinæ. —F 4.——37.	Lying beneath all the Muſcles of the Neck. *A*——Four inferior Cervical Vertebræ. *I.* Inferior. *U.* bends the Neck backwards.

7 Pair Muſcles of the Dorſal Region.

Sacro Lumbalis—Longiſſimus Dorſi—Spinalis Dorſi—Semi-ſpinalis Dorſi—Multifidus Spinæ—Intertranſverſales Dorſi—Inter-ſpinales Dorſi *.

1. Sacro Lumbalis. —F 1, 2, and 3. ————25.	Covered by the Splenius, Latiſſimus Dorſi, Rhomboides, and Serratus Poſticus inferior, which ſee A——Tendon of the Longiſſimus Dorſi. *I.* *T.* into all the Ribs, the Muſculi Acceſſorii lie beneath it. *U.* depreſſes the Ribs, and raiſes the Trunk.
2. Longiſſimus Dorſi. —F 2, 3.—. 24.	Is found united with the laſt Muſcle. A. *T*——Os Sacrum, Ilium, all the Lumbar Vertebræ. *I.* (d) all the Dorſal Vertebræ, and Tubercles of the Coſtæ. *U.* raiſes the Trunk.
3. Spinalis Dorſi. —F 3.—32. 33.	Situated along the Spine. A pin is paſſed at (32) beneath the two Lumbar; and (33) the firſt Dorſal Origin. A. *T*——Two ſuperior Lumbar, and three inferior Dorſal Vertebræ. *I.* 2d, 3d, 4th, 5th, 6th, 7th, 8th, Dorſal Vertebræ. *U.* erects the Spine.
4. Semi-ſpinalis Dorſi ‖. —F 4.——36.	Lying beneath the Longiſſimus Dorſi. *A.* *T*——(d) 7th, 8th, 9th, 10th, Dorſal Vertebræ. *I*——(8) four ſuperior Dorſal, and two inferior Cervical Vertebræ. *U.* draws the Spine ſideways, when it acts ſingly; when in concert they erect it.
5. Multifidus Spinæ. F 4.——37.	Lying beneath the Muſcles of the Back. *A*——and is *I.* all the Dorſal Vertebræ. *U.* as the laſt.
6. Intertranſverſales, and (7) Interſpinales Dorſi.	Their names denote their ſituation and office.

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* Previous to viewing theſe Muſcles, the Latiſſimus Dorſi [ſee Muſcles of the Arm] and Serratus inferior [ſee Muſcles of the Coſtæ] are to be removed.

‖ This is not always a diſtinct Muſcle.

Muscles of the Lumbar Region.

3 pair anteriorly, Pſoas Magnus, Pſoas Parvus, Iliacus Internus.

1. Pſoas Magnus. P 3.—F 4.—9.

Situated partly within the Abdomen.

A F——Bodies, and (d) of laſt Dorſal, and all the Lumbar Vertebræ. *I. T.* Trochanter Minor. *U.* when the Femur is ſtationary, bends the Trunk forward, and rotates the Pelvis on its head.

2. Pſoas Parvus. F 4——9 †.

Situated within the Abdomen.

A. F——Bodies, laſt Dorſal and 1ſt Lumbar Vertebræ. *I.* junction of the Ilium and Pubis. *U.* aſſiſts the Magnus; it is often wanting.

3. Iliacus Internus. P 3.—F 4.—9. and P 9.——8.

Reſts on the Coſta of the Os Ilium.

A. F——Laſt Lumbar Vertebra, and Os Ilium. *I. T.* Trochanter Minor. *U.* aſſiſts the Pſoæ, when the Thigh is fixed.

1 *Pair Laterally.*

Quadratus Lumborum.

1. Quadratus Lumborum. P 3– F 4.—42.

Lateral Muſcle of the Loins beneath the Longiſſimus Dorſi, and Sacro Lumbalis.

A. F——Os Ilium. *I. T.* (d) laſt Dorſal Vertebra, all the Lumbar and laſt Rib. *U.* directs the Spine to one ſide, pulls down the laſt Rib, or raiſes the Spine when both act.

3 *Pair Muscles of the Lumbar Region, posteriorly.*

Multifidus Spinæ, Interſpinales Lumborum, Intertranſverſales Lumborum.

Multifidus Spinæ. P 3.—F 4—37.

A——Os Sacrum, and Lumbar Vertebræ. *I.* Spinous proceſſes of the Lumbar Vertebræ. *U.* bends the Spine ſideways, or, when both act, raiſe it erect.

Interſpinalis, and Inter-tranſverſalis Lumborum.

Small Muſcles ſimilar to thoſe of the Neck and Back.

Muscles of Respiration, or of the Costæ.

1. Scaleni.

See theſe Muſcles enumerated as Muſcles of the Neck, page 76: they may be ranked as ſuperior and lateral, with reſpect to the Cheſt. *U.* when the

Neck is fixed, they by contracting may raiſe the Cheſt.

2. Abdominal Muſcles, Anterior, 4 Pair.

See theſe Muſcles as Abdominal, page 80. As Muſcles of the Coſtæ, they depreſs the inferior Region of the Cheſt;—they are paſſive in the act of inſpiration, as their powers counteract this intention.

6 *Sets poſterior Muscles of the Coſtæ* *.

Serratus Poſticus Superior, Serratus Poſticus Inferior, Intercoſtales Externi, Ditto Interni—Levatores Coſtarum Longiores, Levatores Coſtarum Breviores.

1. Serratus Poſticus Superior.
P 4.—F 2.—†

Situated beneath the Rhomboideus.

A. T——(g) inferior Cervical, and 2 ſuperior Dorſal Vertebræ. *I. T.* and *F.* 2d, 3d, 4th, 5th, Coſtæ. *U.* dilates the Thorax, by moving the Ribs obliquely upwards.

2. Ditto Inferior.
————26.

Situated beneath the Latiſſimus Dorſi.

A. F——(g) 2 inferior Dorſal, and 3 inferior Lumbar Vertebræ, united with the tendon of the Latiſſimus Dorſi. *I. F.* 4 inferior Coſtæ. *U.* depreſſes the lower region of the Cheſt.

3. Intercoſtales Externi.
F 2.——23.

A——Inferior margin of the Coſtæ. *I.* Superior Margin, and Spine.

4. Ditto Interni.
P 15.—F 1.——23.

A——Cartilaginous and Oſſeous Portions of the Coſtæ, continued to the angle. *I.* into the ſuperior margin of the Coſtæ, and edge of the Sternum. *U.* Theſe Muſcles increaſe the capacity of the Cheſt, by bringing the Coſtæ into a horizontal poſition.

5. Levatores Coſtarum Longiores,
P 4.—F 4.——38.

A. F——(d) 6th 8th, 10th, and laſt Dorſal Vertebræ. *I.* four inferior Coſtæ, near their Angles. *U.* as laſt.

6. Ditto Breviores.
————39.

A——Laſt Cervical, and 11 ſuperior Dorſal Vertebræ. *I.* Cervix of the Coſtæ on their ſuperior margins. *U.* as the former.

2 *Sets Internal Muscles of the Cheſt.*

Triangularis Sterni—Infra Coſtales.

1. Triangularis Sterni.

A F——2d, 3d, 4th, and 5th Cartilages of the Coſtæ.

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* Previous to diſcovering theſe Muſcles, the Trapezius and Rhomboideus muſt be removed. See Muſcles of Scapula.

I T. Cartilago Enſiformis. *U.* diminiſhes the capacity of the Cheſt.

2. Infra Coſtales*. *A*——Heads of the Coſtæ. *I.* Angles of the Coſtæ below. *U.* They ſeem to have a tendency, by their contraction, to oppoſe the Inter-coſtales; and, when the laſt ceaſe to act, bring back the Coſtæ to their natural obliquity.

Diaphragma. Septum between the Thorax and Abdomen.

† P 3.--F 5.--§ *A F*——Cartilago Enſiformis, and Cartilages of the 6 inferior Coſtæ. *I.* into a Triangular middle Tendon (6), from the lower part of which, Muſcular bundles (2), (named Crura) are ſent down to be inſerted, 2d, 3d, and 4th Lumbar Vertebræ; the Aorta (4), and Thoracic duct paſs between the Crura, the former out of, the latter into the Thorax, to be inſerted into the Subclavian Vein. On the right ſide, an opening (5) in the middle Tendon, tranſmits from the Abdomen that ſmall portion of the Vena Cava Inferior, which extends from the Diaphragm, to be inſerted into the anterior or right Auricle of the Heart;—the Oeſophagus paſſes from the Thorax to the Abdomen, between the carneous columns (3) above the Aorta.

U——The principal Muſcle of Reſpiration.

4 Pair Abdominal Muscles, sometimes 5 ‡, viz.

Obliquus Externus—Ditto Internus—Tranſverſalis—Rectus—and Pyramidalis.

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* Theſe Muſcles are not always found in the ſame number or ſituation.

† [1] Pſoas. [2] Inferior Muſcle terminating in the Crura. [3] Orifice of Oeſophagus. [4] Aorta. [5] Orifice of Vena Cava.

‡ P III.--F. 1. Conſtituent parts of the Integuments repreſented--[a] Cuticula, [b] Corpus or Rete Mucoſum, [c] Cutis Vera, [d] Corpus adipoſum, its Membranous Cells [e] may be traced from the Cutis Vera, and theſe Cells are continued to form the Cellular ſubſtance of adjacent parts; † [f] named Linea Alba; the letter is placed at the Umbilicus; [g] Linea Semilunaris; ſometimes there is a ſmall additional Semilunaris [h]; [i] Ten-

1. Obliquus Externus.
P 3 --F 1.--1‡.
P 4.--F 1.--1†.

A. F——8th inferior Coſtæ, digitating with Pectoralis Major, Serratus Major Anticus, and Latiſſimus Dorſi. *I. F.* Os Ilium.

2. Obliquus Internus.
P 3. & 4.——
F 2.——14.

A. F. 3d or 4th Inferior Lumbar Vertebræ, Os Sacrum and Ilium, united to the Tendon of the Serratus Poſticus inferior, is continued at (a), becoming Cremaſter Muſcle. *I.* Cartilago Enſiformis, and Cartilages of the 6 inferior Coſtæ. The Tendon is compoſed of 2 Laminæ, ſent off from the Linea Semilunaris (g); the anterior Lamina unites with the Tendon of the external oblique, forming the anterior covering, or Vagina of the Rectus Abdominis; a ſlip of this Vagina is left at (n), Fig. II. the reſt removed to ſhew the Rectus Abdominis. The poſterior Lamina unites with the Tendon of the Tranſverſales Abdominis, or Muſcle beneath (to be afterwards deſcribed) forming the poſterior covering or ſheath of the Rectus, repreſented by the pin (o), which is paſſed between this poſterior Vagina and the Muſcle.

3. Tranſverſalis.
P 4.--F 3.--34.

A. F——Seven inferior Coſtæ, digitating with the Diaphragm, laſt Dorſal, and 4 ſuperior Lumbar Vertebræ, *F.* Os Ilium, its Tendon unites with the poſterior Lamina of the internal oblique, forming the poſterior Vagina of the Rectus. *I.* into the Linea Alba. The Tendon of this Muſcle ceaſes at the lower, or Hypogaſtric region of the Abdomen.

U——Theſe Muſcles may act ſingly, or together; and compreſs partial portions of the Viſcera, or the whole maſs;—or they may depreſs the Ribs, ſo as

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dinous Interſections of the Rectus, to be afterwards deſcribed; the Tendon of the External oblique [m], ſtretching from the ſuperior anterior Spinous Proceſs of the Os Ilium to the Pubis, is named Pouparts Ligament, this continued to [k] forms the anterior pillar of the Ligament, and (l.) the poſterior between which the cord of the Male paſſes to the Scrotum; theſe pillars form what is named the Abdominal ring. In corpulent ſubjects, the fat is frequently depoſited in ſuch great quantity in the Cellular ſubſtance of the Cord, as to dilate the ring, laying the foundations of Herniæ.

to alter the ſhape of the Cheſt ; they may likewiſe, by their contraction, ſuſtain the Viſcera in an elevated ſtate, thus preventing the deſcent of the Diaphragm ; and they may aſſiſt in bringing the Trunk forward, or raiſing it from an Horizontal to a Vertical poſition.

4. Rectus Abdominis.
P 3.—F 2—14*.

A——Cartilage of the Oſſa Pubis. *I.* Three inferior true Coſtæ, interlaced with the neighbouring Muſcles, and partly into the Enſiform Cartilage. *U.* This Muſcle may act ſingly, or with the others,—it may aſſiſt in raiſing the body from a horizontal to a vertical poſition ; it may compreſs any portion, or the whole of the anterior Abdomen, and will in ſome degree carry the others with it ; or, when the others are intended to act powerfully, the Rectus, by its contraction, forms a fixed point of action.

5. Pyramidalis.
F 1, & 2——*

A——along with the Rectus, and is *I.* half way between Os Pubis and Umbilicus, into the Linea Alba and inner edge of the Rectus. *U.* to aſſiſt the inferior part of the Rectus. This Muſcle is often wanting.

Muſles of the Os Coccygis, 2 Pair, viz.

Sacro Coccygæus, Iſchio Coccygæus.

1. Sacro Coccygæus.
P 9——14.

A. F——Os Sacrum. *I. T.* 3 laſt bones of Coccygis. *U.* draws the bones forwards:

2. Iſchio Coccygæus.
P 9——14.

A——Os Iſchium. *I.* Os Coccygis. *U.* aſſiſts the former.

Muſcles of the Anus, are, a ſingle Muſcle and 1 Pair, viz.

Sphincter, and Levator Ani.

1. Sphincter Ani Single.
P 3.–F 3.—c

Is formed of circular fibres, interwoven with the Adipoſe Membrane, and attached to the termination of the Rectum. *I.* into the adjoining Muſcles. *U.* contracts like the drawing together the mouth of a purſe.

2 Levator Ani.
P 9——12.

Situated within Pelvis.

A. F——From a Membrane ſtretched over the Obturator Internus, and from the Os Iſchium, embraces the Sphincter, and adjoining Muſcles. *U*, ſuſtains the Rectum.

Muscles of Male parts of Generation, 3 Pair, viz.

Cremaſter—Erector Penis, and Accelerator Urinæ—the Dartos is enumerated as a fourth by ſome anatomiſts, though by others its exiſtence is denied.

Pl. 3. 1. Cremaſter. —F 2——a	Sent off from the internal Oblique Muſcle, ſurrounding the Spermatic cord, and is diffuſed over the Vaginal coat of the Teſticle. *U.* to draw the Teſticle upward.
Pl. 3. 2. Erector Penis. —F 6——60.	*A. T*——P Os Iſchium. *I.* Membrane of the Corpora Cavernoſa Penis to near the Glans. *U.* to ſuſtain the Penis in the poſition of erection.
Pl. 3. 3. Accelerator Urinæ. —F 6——a	*A. F*——Sphincter Ani. *T.* Crura Penis, and terminates in the middle of the bulb of Urethra. *U.* to eject the laſt drops of urine, and to ſuppreſs the urine upon occaſion.
Perineum.	Or ſpace between the Anus and parts of generation, where all the Muſcles of theſe parts unite.
Tranſverſalis Perinei. —F 6——b	*A*——Os Iſchium, and Adipoſe Membrane, the fibres run in a tranſverſe direction towards the junction of the Accelerator, Anus, and Perineum. In the female, they embrace the fibres of the Perineum. There is a ſimilar Muſcle placed beneath this laſt, named Tranſverſus Perinei Alter. *U.* to keep the Accelerator in Situ.
Sphincter Vaginæ of the Female.	Theſe Muſcular fibres are traced from the Perineum along the ſides of the Vagina, to the Crura of the Clitoris, lying beneath the Nymphæ. *I.* into the roots of the Corpora Cavernoſa of the Clitoris.

Muscles of the Superior Extremities.

1. Subclavius. P 5—F 1—-3 †.	*A. T*——1ſt Rib. *I. F.* Clavicle. *U.* inclines the Clavicle forward in an oblique manner.
Levator Scapulæ.	Lateral Muſcle on the Neck, covered by Trapezius and part of Splenius. *A*, *F*——Scapula. *I. F.* and *T.* 5 ſuperior Cervical

Vertebræ. *U.* rotates Scapula by oppoſing Rhomboides, &c. or draws it obliquely towards the Head.

Muscles moving the Scapula on the Trunk, 3 pair Posteriorly, viz.

Trapezius, and Rhomboidei.

1. Trapezius.
—F 1———1.

Superficial Triangular radiated Muſcle of the Shoulder. *A. T*——Os Occipitis (g), two inferior Cervical, and all the Dorſal Vertebræ. *I. T.* and *F.* Scapula. *F.* Clavicle. *U.* when the whole Muſcle acts, it moves the Scapula backwards; or the ſeparate bundles may act partially.

2. Rhomboideus Major.
——F 2—— *

Oblique ſquare Muſcle beneath the laſt. *A. T.* (g) five ſuperior Dorſal Vertebræ. *I.* Scapula. *U.* directs the Scapula obliquely upwards.

3. Rhomboideus Minor.
——F 2—— ‡

Is a portion ſomewhat ſeparated from the laſt. *A. T.* (g), three inferior Cervical Vertebræ. *I.* Scapula. *U.* Same as the preceding.

2 *Anterior Muscles, viz.*

Serratus Major Anticus, and Pectoralis Minor.

1. Serratus Major Anticus.
P 3—F 1—P 2
F 2——P 5—
F 1———13.

Situated between the Scapula and Cheſt. *A. F*——9 ſuperior Coſtæ, digitating with the external oblique. *I.* Scapula. *U.* when the whole Muſcle acts, it oppoſes the Rhomboides, Trapezius. Levat. Scap. &c. by bringing the Scapula obliquely forwards.

2. Pectoralis Minor.
P 5—F 1—2 †.

Situated beneath Pectoralis Major, ſee Muſcles of Os Humeri. *A. T.* and *F*——3d, 4th, and 5th Ribs. *T.* Scapula. *U.* draws the Scapula forward, and obliquely downwards.

4 *Muscles surround the Head of the Os Humeri, viz.*

Supra Spinatus—Infra Spinatus—Teres Minor, and Subſcapularis.

In order to view theſe 4 Muſcles, the Deltoid muſt be diſſected, and cut tranſverſely through the middle. See Muſcles of the Body of Os Humeri.

1. Supra Spinatus.
P 4—F 2—22.

Covered by the Trapezius.
A. F——Scapula. *I. T.* Os Humeri. *U.* elevates the Os Humeri.

2. Infra Spinatus.
— F 2——7.

Triangular Muſcle, partly covered by the Deltoid.
A. F——Scapula. *I. T.* Os Humeri. *U.* aſſiſts the laſt in the elevation of the arm, and rotates it outwards.

3. Teres Minor.
P 4—F 2——&
P 6————12.

Anterior with reſpect to the laſt, frequently not diſtinguiſhable from it. *A. F.* Scapula. *I. T.* Os Humeri. *U,* aſſiſts the former.

4. Subſcapularis.
P 2—F 3——&
P 5—F 1—10.

Occupies the internal hollow ſurface of the Scapula.
A. F——Scapula. *I. T.* Os Humeri. *U.* to rotate the Os Humeri internally in the Glenoid Cavity *.

6 *Muſcles of the Os Humeri, viz.*

Deltoid—Pectoralis Major—Teres Major—Latiſſimus Dorſi—Triceps Longus—and Coracho Brachialis.

1. Deltoides †.
P 2, 3, 4, 5, and
6————2.

Superior Triangular, ſuperficial Muſcle of the Os Humeri.

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* The four Muſcles laſt deſcribed, not only move the Os Humeri in the directions mentioned, but ſeem likewiſe to retain the great head of this Bone in its ſuperficial Cavity, during the violent actions of the Arm.

† P. 2. F. 1. [6] Pectoralis Major; [a] Muſcle not often occurring, ſituated nearly parallel to the Sternum, from which it ariſes Tendinous, and is inſerted Tendinous into the Faſcia of the Rectus Abdominis.

F. 2. [1] Trapezius; [2] Deltoides; [6] Pectoralis Major; [13 †] Biceps Longus; [14] Ditto Brevis; [15] Coraco Brachialis: [7] Coracoid proceſs, to which the Coraco Brachialis and Biceps Brevis are attached; [24] Thoracica Humeraria; [9] Cephalic Vein embeded in fat; [51] Median Nerve, paſſing before the Brachial Artery; [11] Vena Baſilica; [12] part of the Faſcia of the Arm; [13] Serratus Major Anticus.

F. 3. [†] repreſents a Muſcle croſſing the Axilla, and covering the great Veſſels and Nerves, which occurs frequently, ariſes from [6] Pectoralis Major, and is inſerted into the Latiſſimus Dorſi; [12] Teres Major.

A. F——Clavicle and Scapula. *I. T.* Os Humeri. *U.* to raiſe the arm towards the Acromion, and in the different lateral directions of the ſeparate bundles of fibres.

2. Pectoralis Major.
P 2 & 3—F. 1
——6.

Anterior and triangular ſuperficial Muſcle of the Cheſt.

A. F——Cartilages of the true Ribs, Sternum and Clavicle. *I.* Os Humeri. *U.* to move the arm towards the Cheſt, oppoſing the Teres Major, and Latiſſimus Dorſi.

3. Teres Major.
P 4—F 2—P 6.
F. 1——12.

Anterior, triangular, deep-ſeated, covered by the laſt.

A. F——Scapula. *I. T.* Os Humeri. *U.* to draw the arm downwards towards the Cheſt.

4. Latiſſimus Dorſi.
P 4—F 1——11

Poſterior and ſuperficial Muſcle covering the inferior portion of the Cheſt and Loins, ſomewhat triangular.

A. F——4 inferior Coſtæ, 7 inferior Dorſal Vertebræ, all the Lumbar Vertebræ, Sacrum, and Os Ilium, joined to the Tendon of the Serratus infe-

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P 5. F. 1. [2] Root of the Subclavian Artery; [3] Vertebral; [4] Common Trunk of Cervical, and Superſcapulary Arteries; [21] Axillary; [22] Thoracica ſuperior; [41] Supplying the Thorax; [42] ſupplied the Pectoralis Major; [26] Subſcapular, diſtributed to the neighbouring Muſcles; [29] Brachial Artery; [30] Profunda Humeri ſuperior; [31] Ditto inferior. In this ſubject, the Muſcular Arteries were very numerous, and the Profunda Inferior very ſmall; [32] Ramus Anaſtamoticus Major; [37] Radial Artery; [44] Ulnar, where it becomes ſuperficial; at [58] it anaſtomoſes with the deep ſeated Palmar Arch, and is continued to become the ſuperficial; [51] Median Nerve accompanying the Brachial Artery, and becoming ſuperficial at the Wriſt, ſupplying the Thumb and Fingers marked ‡.; [52] Cutaneous Nerve; [53] Ulnar, ſupplying the Fingers, marked *.; [19] part of the Bone not covered by Muſcles.

F. 2. (1) Origin of Pronator Teres; Flexor Radialis; Palmaris Longus and Brevis; Flexor Perforatus; theſe Muſcles have been cut off to ſhew the ſubjacent parts; [32] Ramus Anaſtomoticus Major; [9] and [10] its two great branches; [34] Recurrens Ulnaris Anterior; [35] Ditto Poſterior, ſeen anaſtomoſing with [9] and [10]; [44] Ulnar Artery; [47] Interoſſeal.

rior. *I. T.* along with the Teres Major. *U.* draws the arm obliquely downwards.

5. Triceps Longus.
P 5—F 1—16.

Poſterior Muſcle of the Arm.

A. F——Scapula. I. *F.* Os Humeri. *U.* aſſiſts the former when it acts ſingly; when acting with its fellow, it extends the arm.

6. Coraco Brachialis.
P 5—F 1—15.

Internal ſuperior Muſcle of Os Humeri.

A. T. and *F*——Scapula. *I. F.* Os Humeri. *U.* brings the arm towards the Cheſt, and aſſiſts in raiſing it.

Muscles of the Fore-Arm, 2 *Anterior Flexors, viz.*

Biceps Flexor Cubiti, and Brachialis Internus.

1. Biceps Flexor Cubiti.
P 5—F 1—14.*

Anterior Muſcle traverſing the whole of the Os Humeri.

Long head (13†) *A. F.* Scapula—ſhort head (14) *A. T.* and *F.* Scapula. Theſe unite about the middle of the Os Humeri, and are *I. T.* Radius. *U.* to bend the Fore-arm, or to produce ſupination.

2. Brachialis Internus.
P 6————9. §

Anterior, deep ſeated, covered by the laſt.

A. F——Os Humeri receiving Deltoid inſertion into its Bifurcation. *I. T.* Ulna. *U.* to raiſe the Ulna while the Biceps acts in raiſing the Radius.

4 *Posterior Muscles, viz.*

Triceps Longus—Magnus—Brachialis Externus, and Anconæus.

Theſe three Muſcles placed on the back of the Os Humeri.

1. Triceps Longus.
P 5—F 1—16.

A. T——Scapula. *T.* and *F.* (§), Os Humeri, and Ulna. *U.* extends the Fore-Arm.

2. Triceps Magnus.
P 6————4.

A. F——Os Humeri. *I. T.* Ulna. *U.* extends the Fore-arm.

3. Brachialis Externus.
P 5—F 1—17.

A. F——Os Humeri. *I.* Ulna. *U.* extends the Fore-arm.

4. Anconæus.
P 6————22 †.

A continuation of the above Muſcles:

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* P 5.—F 2. (14) Inſertion of Bicipital Tendon.

§ ———— (9) Inſertion Brachæus Internus.

A. T.——Os Humeri. I. Ulna. *U.* aſſiſts the former *.

Diſſection of the Fore-Arm.

The firſt anterior inciſion is made from the internal Condyle to the lower portion of the Radius; this brings the Flexor Carpi Radialis into view. Poſterior inciſion is made from the external Condyle to the lower extremity of the back of the wriſt, which brings the Extenſor Communis into view.

3 *Pronators of the Fore-Arm.*

Pronator Radii Teres,—Flexor Carpi Radialis,—and Pronator Radii Quadratus.

1. Pronator Radii Teres. P 5—F 1—22. Short, ſuperficial, ſuperior, oblique Muſcle of the Fore-arm. *A. T.* and *F.* Os Humeri, and Ulna. *I. T.* and *F.* Radius. *U.* directs the palm of the hand downwards.

2. Flexor Carpi Radialis. ———— 23. Long ſuperficial oblique Muſcle, traverſing the whole Fore-arm, *A.* a little inſide the laſt, its Tendon paſſing through the Foſſa of the Os Trapezium. *I.* Metacarpal bone of the index. *U.* aſſiſts the laſt when it is not counteracted by the ſupinators or flexors.

3. Pronator Radii Quadratus. 5—3 ——4. Deep ſeated tranſverſe Muſcle, at the Carpal extremity of the Arm, ſituated next the Interoſſeous Membrane, covered by the Flexors. *A. T.* and *F.* Radius. *I. T.* and *F.* Ulna. *U.* aſſiſts the former.

3 *Supinators of the Fore-Arm.*

Supinator Radii Longus———Brevis—and Biceps Cubiti.

1. Supinator Radii Longus. —F 1——13 †. Superficial, ſuperior, external Muſcle, on the Radial

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* The Tendinous Faſcia of the Arm gives riſe to the outer Fibres of this Muſcle, as well as the adjacent Muſcles. See P. 6. [23] where it is diſſected from the Anconæus, and left covering the other Muſcles.

ſide of the Arm. *A. F.* Os Humeri, joining the outer margin of Brachialis Internus. *I. T.* Radius. *U.* Rotates the Radius, and directs the palm upwards.

2. Supinator Radii Brevis.
P 1.—F 7—36.

Small ſuperior triangular, deep ſeated Muſcle ſituated beneath the Extenſor Muſcles of the Radius. *A. T.* and *F.* Os Humeri, and Ulna. *I. T.* and *F.* Radius. *U.* aſſiſts the former.

3. Biceps Flexor Cubiti.
P 5.—F 1—13†. and 14.

May aſſiſt the Supinators by acting from its Coracoid origin on the Tubercle of the Radius. See Biceps, page 87.

2 *Flexors of the Carpus, sometimes* 3.

Flexor Carpi Radialis,—Flexor Carpi Ulnaris,—and Palmaris Longus.

1. Flexor Carpi Radialis.
————23.

Long ſuperficial oblique Muſcle, tranſverſing the whole Fore-arm, (ſee this Muſcle as a Pronator, page 88). This Muſcle, when it contracts ſingly, produces Pronation; and therefore produces Flexion completely, only when oppoſed by the Supinators, and aſſiſted by the Flexor Ulnaris.

2. Flexor Carpi Ulnaris.
————26*.

Superficial long Muſcle, on the anterior ſurface of the Ulna, traverſing its whole length. *A. F.* Faſcia of the Arm. *T.* Os Humeri. *F.* Ulna. *I. T.* Os Piſiforme, continued to the Metacarpal bone of the little finger. *U.* aſſiſts the laſt.

3. Palmaris Longus.
P 5.—F 1—22.

Superficial long Muſcle, ſituated along the inſide of Flexor Carpi Radialis, often wanting. *A. T.* and *F.* Os Humeri. *I. T.* Palmar Membrane, which covers the Veſſels, Nerves, and Muſcles, of the hand. *U.* aſſiſts the former.

3 *Extenſors of the Carpus.*

Extenſor Carpi Radialis Longior—Ditto Brevior—and Extenſor Carpi Ulnaris.

Extenſor Carpi Radialis Longior.
P 6.——14.

External ſuperficial Muſcle, on the Radial ſide of the Arm, partly covered by the Supinator Longus. *A. T.* Os Humeri. *I. T.* Metacarpal bone of the Index poſteriorly. *U.* extends the Carpus.

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* Fig. 2. (26) The extent of its connection with the Ulna is repreſented.

2. Extenſor Carpi Radialis Brevior. ————15†	External ſuperficial Muſcle, on the Radial ſide of the Arm, partly covered by the laſt. *A. T.* and *F.* Os Humeri. *I. T.* Metacarpal bone of the middle finger poſteriorly. *U.* aſſiſts the former *.
3. Extenſor Carpi Ulnaris. P 6——26 †.	Poſterior ſuperficial Muſcle, on the Ulnar ſide of the Arm, traverſing that bone. *A. F.* Faſcia of the arm. *T.* Os Humeri. *F.* Ulna. *I. T.* Metacarpal bone of the little finger. *U.* aſſiſts the former.

3 *Flexors of the Fingers.*

Flexor Sublimis Perforatus—Profundus Perforans, and Lumbricales.

1. Flexor Sublimis Perforatus. P 5—F 1—25†.	Situated beneath the Flexor Carpi Radialis, and Palmaris Longus, a broad long Muſcle, traverſing the whole of the Fore-arm, from the Pronator Teres downwards. *A. T.* and *F.* Os Humeri, Ulna, Interoſſeous Membrane, and Radius. *I. T.* 2d Phalanx of the fingers. *U.* brings the fingers towards the Carpus, as in the action of graſping.
2. Flexor Profundus Perforans. P 5—F 2——5.	Situated beneath the laſt, and has nearly a ſimilar ſhape and extent. *A. F.* Ulna. *I. T.* 3d Phalanx of the fingers. *U.* aſſiſts the laſt.
3. Lumbricales. —F 1——34.	Small Muſcles on the palm of the hand. *A. F.* Tendons of the Flexor Perforans at the Annular Ligament. *I. T*, 1ſt Phalanx of the fingers. *U.* aſſiſts the former.

1 *Great Extensor of the Fingers.*

Extenſor Digitorum Communis. P 6————20.	Poſterior ſuperficial Muſcle, ſituated between the Extenſor Radialis Brevior, and Extenſor Ulnaris. *A. T.* and *F.* Os Humeri; its 4 Tendons are diffuſed over the Phalanges of the fingers. *U.* extends the fingers, or opens the hand.

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* The Supinator Longus, and Extenſors of the Radius, are 3 Muſcles ſimilar in ſhape, adjoining each other in the order enumerated.

† The extent of its Radial origin repreſented P 5.—F 2.—(25).

4 ſmall anterior Extenſors of the Fingers, and 3 poſterior, named INTEROSSEI.

2 *proper Muſcles of the Index.*

Extenſor Indicis Proprius, or, Indicator—and Abductor Indicis Proprius.

1. Indicator, P 1 ---F 7. covers the point of the pin 33.

Deep ſeated, beneath the Extenſor Communis, and the loweſt of the Muſcles on the Ulna. *A. F.* Ulna. *I. T.* Index. *U.* to point the finger.

2. Abductor Indicis. P 6———19.

Triangular Muſcle ſituated poſteriorly between the Thumb and Index. *A. F.* Os Trapezium, and Metacarpal bone of Thumb. *I. T.* Metacarpal bone of the Index. *U.* When the Thumb is fixed, to abduct the Index from the fingers; when the Index is fixed, to adduct the thumb towards it.

3 *Flexors of the Thumb.*

Flexor Longus Pollicis—Flexor Brevis—Flexor Oſſis Metacarpi, or Opponens Pollicis.

1. Flexor Longus Pollicis. P 5—F 1 & 2—†

Strong deep ſeated Muſcle, ſituated beneath Flexor Perforatus on the Radial ſide of the arm. *A. F.* Os Humeri, and Radius. *I. T.* laſt Phalanx of the Thumb. *U.* Cloſes the Thumb upon the Fingers in the action of clinching.

2. Flexor Brevis. —F 1——31.

Superficial ſhort Muſcle, forming what is commonly named, Ball of the Thumb. *A. T.* and *F.* Os Trapezoides, Magnum and Unciforme. *I. F.* Oſſa Seſamoidea, and expanded over the 1ſt Phalanx of the Thumb. *U.* aſſiſts the laſt.

3. Opponens Pollicis, or Flexor Oſſis Metacarpi Pollicis Manus.

Lies hid under the Abductor Pollicis, (ſee P5—F 1—30,) *A. F.* Annular Ligament and Os Trapezium. *I. T.* Metacarpal bone of the thumb. *U.* aſſiſts the former.

3 *Extensors of the Thumb.*

Extenſor Oſſis Metacarpi Pollicis—Extenſor Primi Internodii—Ditto ſecundi Internodii.

1. Extenſor Oſſis Metacarpi Pollicis. P 6—F 1——16.

Deep ſeated at its origin, ſituated beneath the Extenſor Communis, and paſſing obliquely over the extenſors of the Radius, becomes ſuperficial. *A. F.*

	Ulna, Radius, and Interoſſeous Membrane. *I.* Os Trapezium. *U.* moves the Thumb from the hand in opening, as in the action of ſurprize.
2. Extenſor Primi Internodii. ———17.	Situated lower down on the Ulna, adjoining the laſt. *A. F.* Ulna, and Interoſſeous Membrane. *I. T.* 1ſt Phalanx of the Thumb. *U.* oppoſes the Flexors, and brings the bones of the Thumb to a right line.
3. Extenſor Secundi Internodii. ———18.	Situated a little beneath the laſt. *A. F.* Ulna, and Interoſſeus Membrane. *I. T.* laſt Phalanx of the Thumb. *U.* aſſiſts the laſt.

1 *Abductor of the Thumb.*

Abductor Pollicis. P 5—F 1——30.	Fleſhy ſmall anterior ſuperficial Muſcle of the Thumb, placed on its Metacarpal bone. *A. T.* and *F.* Annular Ligament, and Os Trapezium. *I. T.* 1ſt Phalanx of the Thumb. *U.* withdraws the Thumb from the palm of the hand.

1 *Adductor of the Thumb.*

Adductor Pollicis. ———32.	Deep ſeated Triangular Muſcle, ſituated beneath the Tendons of the Flexors on the palm. *A F.* Metacarpal bone of Mid-finger. *I. T.* 1ſt bone of the Thumb. *U.* Oppoſes the Abductor, and directs the Thumb towards the palm of the hand.
Palmaris Brevis.	Tranſverſe Carneous fibres below the integuments of the palm. *A* ſkin of the palm, which covers the Muſcles of the little finger. *I.* Annular Ligament. *U.* contracts the palm of the hand.

1 *Abductor of the Little Finger.*

Abductor Minimi Digiti. ———35.	External Muſcle ſituated on the Metacarpal Bone of the Little Finger. *A. F.* Annular Ligament and Os Piſiforme. *I. T.* 1ſt bone of the Little Finger. *U.* withdraws the Little Fingers from the others.

1 *Flexor of the Little Finger.*

Flexor Parvus Minimi Digiti.	*A. F.* Os Unciforme, and Annular Ligament. *I. T.* 1ſt bone of the Little Finger. *U.* aſſiſts in cloſing the hand.

1 *Adductor of the Little Finger.*

Adductor Minimi Digiti.	Situated internally with reſpect to the laſt. *A. F.* Os Unciforme and Annular Ligament. *I. T.* Metacarpal and firſt bone of this finger, *U.* oppoſes the Abductor, or, when united with the Abductor and Flexor, produces Flexion.

MUSCLES OF THE INFERIOR EXTREMITY.

HIP JOINT.

2 *Flexors, viz.*

Pſoas Magnus—Iliacus Internus.

1. Pſoas Magnus. P 3.—F 1. and 4. ——9.	Situated within the Abdomen. See theſe Muſcles as acting alſo on the Trunk. *A. F.* Laſt Dorſal, and all the Lumbar Vertebræ. *I. T.* and *F.* Os Femoris. *U.* brings the Thigh towards the Body, and may rotate it a little.
2. Iliacus Internus. —F 1. & 4—8. P 9——8.	Situated as above. *A. F.* laſt Lumbar Vertebra, and Os Ilium,—its Tendon united to the laſt. *I.* along the laſt. *U.* aſſiſts the Pſoas.

2 *Adductors, viz.*

Pectineus—and Triceps Adductor Femoris,

1. Pectineus. P 3.—F 1—10†.	Superior, ſuperficial, internal Muſcle of the Thigh. *A. F.* Os Pubis. *I. T.* and *F.* Os Femoris. *U.* may elevate the Thigh a little; bring the one Thigh towards the other, or return the Toes inward, when the Poſterior Rotators to be mentioned have turned them outwards.
2. Triceps Adductor Femoris.	Triangular, ſuperficial, internal Muſcle, ſent obliquely from the outer portion of the Pelvis, to the inſide of the Os Femoris. This is in general divided by Authors into 3 portions, viz. Adductor Brevis, Longus, and Magnus.
1. Adductor Longus. P 1,—F 4. 8. & 11 P 7——11*	*A. T.* Os Pubis, running along margin of laſt. *I.* Os Femoris. *U.* may elevate the Thigh, bring it inwards, and ſeems to turn the Toes inwards, as the laſt.
2. Adductor Brevis. P 1.—F 11—10†	Is covered by the laſt. *A. T.* Os Pubis. *I.* Os Femoris. *U.* as the laſt.

3. Adductor Magnus. ———13. Runs along the inferior margin of the Longus, traverſing the whole inſide of the Thigh. *A.* Oſſa Pubis and Iſchii. *I.* Os Femoris. *U.* as laſt.

5 *Muſcles, Abductors and Rotators of the Thigh.*

Muſculus Faſciæ latæ—Glutæus Maximus—Glutæus Medius—Glutæus Minimus—Pyriformis.

1. Muſculus Faſciæ Latæ *. P 7.——7. Superficial, ſuperior, lateral, or external ſhort Muſcle. *A. F.* Os Ilium. *I.* into the Duplicature of the Faſcia, which is diffuſed over the Thigh and Leg.

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* P. 7. [4] Membrana Adipoſa; [5] External Lamina of the Faſcia, which is diffuſed over the Gluteal Muſcles; [6] Internal Lamina, which unites with the Tendons of the Abdominal Muſcles, and is ſent down to the Perioſteum. The Muſcle [7] ariſes from theſe Laminæ, at the inſertion, the Laminæ become more united; this covering is very condenſed at the outer part of the Thigh and Leg,—and tranſverſe or circular bands are obſervable along its whole courſe; it forms a kind of Vagina of the Muſcles, by ſending down productions to the Perioſteum,——and ſo intimately are the Muſcles connected to it, that conſiderable ſkill and neatneſs is requiſite to make a correct diſſection of theſe parts; [9] ſituation of Iliac and Pſoæ Muſcles; [10] ſituation of Pectinalis; [11*] Triceps Longus, beneath which the Brevis is ſituated,—and beneath the laſt is the Obturator Externus; [†] Fibular Nerve, emerging from between the Extenſor [18], and Peroneus Brevis [20*] paſſes through the Faſcia, and in ſome caſes this ſupplies the outer part of the Foot only; in this ſubject it ſupplied the moſt of the Foot, which frequently happens; in other caſes, the Anterior Tibial, which accompanies the Artery of that name, ſupplies the Dorſum. From [70] to [75] repreſents the extent of the Crural Artery, from Poupart's Ligament to the Sartorius, when parts are in Situ; [71] Glandular Arteries; [77] Artery of the Spermatic Cord, which laſt is marked [28]; in this ſubject the Cord was loaded with fat, the Ring diſtended, and Incipient Hernia diſtinct, which is common in this ſtate of the Cord; [75] External Circumflex Artery; the Glands are diſtinctly ſeen ſituated between the Adductor Longus and Sartorius; [29] termination of the Anterior Tibial Artery.

U. produces Abduction of the Thigh and Leg, or may aſſiſt in directing the Toes inwards.

2. GlutæusMaximus. P 8. and 10. ——.—— 1. Radiated, ſuperficial, ſuperior, poſterior Muſcle of the Hip. *A.* Os Ilium, Sacrum, Coxigis, and Sacro-Iſchiatic Ligament. *I.* Os Femoris. *U.* produces the Abduction of the Thigh, when its anterior Fi-

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I have found this Artery very ſmall, and the Fibular as large as the Tibial is generally, and the anterior branch, which perforates the interoſſeal membrane, was continued as the great Artery of the convexity of the Foot, See Drawing. I have likewiſe found the Fibular the largeſt, and the Poſterior Tibial the ſmall one; in this caſe there was a Crucial Anaſtomoſis, a little above the poſterior part of the Ancle; and in No. 18., the Anterior Tibial Artery is ſent off from the Popliteal, between the Condyles, 3 inches above the poſterior Tibial and Fibular, and paſſes between the poplitæal Muſcle and Bone, to the Perforation of the Interoſſeal Membrane.

P. 8. [a] Termination of Poplitæal Artery; [b] branch of Iſchiatic Nerve, which becomes Poſterior Tibial; [c] Origin of Anterior Tibial and Fibular Nerves; [d] a Nerve lying between the Integuments and Gaſtronemii Muſcles, accompanied by the Vena Saphena Minor; [e] Termination of Poſterior Tibial Artery, where it ſends off the Plantar Arteries; [f] Peroneal Artery.

P. 9. [7] Peritoneum; [10] uniting Tendon of the Pſoas and Iliac Muſcles; [D] Bifurcation of the Aorta: [1] Primary Iliacs; [2] their divarciation into [3] External or Anterior Iliac; and [4] Internal Poſterior Iliac, or Hypograſtic Arteries; [19] Circumflexa Interna Ilia; [20] Epigaſtric Artery; and [21] Obturator, frequently, as in this ſubject, ſent off from one common Trunk; [a] Vas Deferens, which turns around the Epigaſtric Artery, to reach the Pelvis; [6] Symphyſis of Pubis; [11] Common Trunk of the 4 Arteries beneath, ſent to the Rectum Proſtate Gland; Veſiculæ Seminales and Bladder, this is only 1 Artery in ſome caſes, named Middle Hæmorhoidal; [13] Iſchiatic Artery; [27] Great Pudic at [17*] it is embedded in a great quantity of fat; [12] great Glutæal Artery, ſending off Lateral Sacral; [56] Middle Sacral; [30] and [31] Sacral Nerves. P. 10. the Iſchiatic and Glutæal Arteries have the ſame numbers; their diſtributions may be underſtood by attending to the Muſcles; [14] Iſchiatic Nerve.

	bres act. The poſterior portion extends or draws back the Thigh.
3. Glutæus Medius. ——— 2.	Situated as above, the anterior portion lies between the laſt Muſcle and Muſculus Faſciæ Latæ, the poſterior portion is covered by the Glutæus Maximus; it is a radiated Muſcle. *A.* Os Ilium. *I.* Os Femoris. *U.* as the former, and may rotate the Thigh, turning the Toes inwards, particularly when the anterior Fibres act; the poſterior Fibres are Rotators or Abductors.
4. Glutæus Minimus. P 10——3.	Situated beneath the laſt, and is not eaſily diſcriminated from the Pyriformis, which has its direction along the inferior margin of this Muſcle. This is a radiated Muſcle. *A.* Os Ilium. *I.* Os Femoris. *U.* as the former, but ſeems more ſtrictly an Abductor.
5. Pyriformis. P 9. and 10.——4.	Originates within the Pelvis, paſſes out of it by the Ilio Sacro Iſchiatic Notch. Its name denotes its ſhape. *A. F.* Os Sacrum. I. T. Os Femoris. *U.* as the laſt, but may likewiſe rotate.

4 *Rotators of the Thigh, viz.*

Obturator Externus—Obturator Internus—Gemini—and Quadratus Femoris.

1. Obturator Externus. P 3.—F 4——§	Anterior, radiated, deep-ſeated Muſcles, beneath the Pectinalis. *A. F.* Os Pubis, Iſchii, and Obturator Membrane. *I. T.* Os Femoris. *U.* turns the Toes outwards.
2. Obturator Internus. P 9——12†.	Radiated, ſituated within the Pelvis. *A.* Os Pubis, Iſchii, and Obturator Membrane, paſſes out of the Pelvis by the Obturator Sinus of the Os Iſchii. *I. T.* Os Femoris. *U.* as the laſt.
3. Gemini. P 10——5.	Two deep ſeated Bodies, running along the inferior margin of the Pyriformis, and form a kind of ſheath incloſing Tendon of the Obturator Internus. *A. F.* Os Iſchium, Sacro Iſchiatic Ligament. *I.* Os Femoris. *U.* as the laſt.
4. Quadratus Femoris. ——6.	Deep ſeated Oblong Muſcle, ſituated along the inferior margin of the laſt. *A. T.* and *F.* Os Iſchium. *I. F.* Os Femoris. *U.* as the laſt.

ANTERIOR MUSCLES ACTING ON THE TIBIA AND FIBULA.

4 *Extenſors, viz.*

Rectus Femoris—Vaſtus Externus—Vaſtus Internus—and Cruralis.

1. RectusFmoris.
P 1,—F 8. and
P 7.
————14 †.

Superficial middle Muſcle, traverſing the whole anterior portion of the Thigh, the upper portion covered by the Sartorius. (See this Muſcle.)

A. T. and *F.* Os Ilium. *I.* Patella. *U.* brings the leg to a ſtraight line with the Thigh bone, as in walking.

2. Vaſtus Externus.
P 7——15. and
P 1.—F 9.—15.

Superficial, lying along the outſide of the Rectus. *A. T.* and *F.* Os Femoris. *I. T.* Patella. *U.* as the laſt.

3. Vaſtus Internus.
P 1.—F 9. and
P 7.
——————16.

Superficial, lying along the inner ſide of the Rectus. *A. T.* and *F.* Os Femoris. *I. T.* Patella. *U.* as the laſt.

4. Cruralis.
P 1.—F 9—35.

Deep ſeated, between the Vaſtii, and covered by the Rectus. *A. F.* Os Femoris. *I. T.* Patella. *U.* as the laſt.

6 *Muſcles which produce Flexion of the Leg, viz.*

Sartorius—Gracilis—Semitendinoſus—Semimembranoſus—Biceps Cruris—and Poplitæus.

1. Sartorius.
P 1—F 8——P
7 & P 8——8 ‡.

Anterior, ſuperficial, traverſing the thigh obliquely.

A. T——Os Ilium. *I. T.* Tibia. *U.* aſſiſts in Flexion, or bringing the leg backwards, towards the thigh, or turns the toes outwards.

2. Gracilis.
————12 †.

Superficial, running along the whole inſide of the thigh.

A. T——Os Pubis. *I. T.* beneath the laſt. *U.* aſſiſts the former, or adductors.

3. Semitendinoſus.
P 7——5 §‡.
6. Repreſents its
Middle Tendon.

Superficial, poſterior Muſcle, running obliquely from the hip, towards the inſide of the Tibia *. *A. T.* and *F.* Os Iſchium. *I. T.* near the laſt. *U.* carries the Leg towards the Hip.

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* The upper portions of all the poſterior Muſcles

4. Semimembranoſus.
P 8———9 †.

Situated beneath the laſt, taking the ſame courſe, a much larger Muſcle. *A. T.* Os Iſchium. *I. T.* near the laſt. *U.* as the laſt.

5. Biceps Cruris.
———4 †.

Poſterior, ſuperficial outer Muſcle on the Fibular ſide of the thigh. *A. T.* Iſchium and Os Femoris. *I. T.* Fibula. *U.* as the laſt.

6. Popliteus.
P 1—F 11—39.

Deep ſeated, ſmall triangular Muſcle, ſituated beneath the head of the Goſtrocnemius (ſee this Muſcle). *A. T.* Os Femoris. *I. F.* Tibia. *U.* ſeems to regulate the actions of the joint.

MUSCLES OF THE FOOT.

2 *Flexors. viz,*

Tibialis Anticus—Peroneus tertius †.

1. Tibiales Anticus.
P 7———19.

Anterior, ſuperficial, on the outer ſide of the Tibia. *A. F.* Faſcia, Tibia, and Interoſſeous Membrane. *I. T.* Os Cuneiforme Internum. *U.* brings the foot towards the Tibia as in walking.

2. Peroneus Tertius.

Outer, ſuperficial, Muſcle, ſituated on the outſide of the Extenſor Digitorum Communis (ſee this Muſcle). *A. F.* Fibula. *I. T.* Tubercle of the Metacarpal bone ſmall toe. *U.* raiſes the outſide, as the former the inſide, of the foot.

3 *Extenſors of the Foot, viz.*

Gemellus—Soleus,—Plantaris.

1. Gemellus or Gaſtrocnemius.
P 7 ——12 *.

Poſterior, ſuperficial, Pyriform, Muſcle, traverſing the whole Dorſum of the leg. *A. T.* Os Femoris. *I. T.* by Tendo Achillis into the Os Calcis. *U.* brings the heel upwards, towards the Gemellus, and points the toes downwards.

2. Soleus.
P — F 8—†.
Here the Gemellus is laid back to ſhew the Soleus. The Plantaris is ſeen paſſing between them.

Situated beneath the laſt, deriving its name from its ſhape. *A. F.* Tibia and Fibula. *I.* into the Tendo

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ſituated in the high bone are covered by the inferior portion of the Glutæus Maximus. The Semitendinoſus and Semimembranoſus are named inner Hamſtring ; and the Biceps, outer Hamſtring.

† This Muſcle frequently wanting, which ſeems to occaſion fatigue in the Extenſor Communis, (ſee this Muſcle) in conſequence of the laſt Muſcle taking up the office of the Peroneus Tertius.

Achillis. *U.* as the laſt, but may have a power of pointing the toes outwards or inwards when the Tibial or Fibular origins act partially.

3. Plantaris.
—F 11——30.

Sometimes wanting; ſmall, deep ſeated, Pyriform Muſcle, ſituated beneath the Gemellus, ſending off a long ſlender Tendon, by the inner margin of the Gemellus. *A. F.* Os Femoris. *I. T.* Os Calcis. *U.* as the laſt.

3 *Muscles performing Lateral Motion, viz.*

Peroneus Longus – Brevis—and Tibialis Poſticus.

1. Peroneus Lon-
gus.
P 7—and P 1—
F 10——11—17

Outer Muſcle of the leg, adjoining Fibular portion of the Soleus. *A. F.* Fibula. *I. T.* ſole of the foot, Cuneiforme Internum, and Metatarſal bone of the great toe. *U.* turns the outer margin of the foot upwards.

2. Peroneus Bre-
vis.
——11. 20.

Situated beneath the laſt. *A. F.* Fibula. *I. T.* Metatarſal bone ſmall toe. *U.* as the laſt.

3. Tibialis Poſti-
cus *.
P 1.—F. 8. and
11.——33.

Poſterior, deep ſeated Muſcle, covered by the Flexors of the Toes (which ſee) *A. T. F.* Tibia. *I. T.* Os Scaphoides. *U.* turns the internal margin of the Foot upwards, and may oppoſe the Tibialis Anticus.

MUSCLES OF THE TOES.

Great Toe, 2 *Extensors,* viz.

Longus and Brevis.

. Extenſor Lon-
s Pollicis Pe-
e.
7.——21.

Outer ſuperficial Muſcle of the Leg, ſituated on the outſide of the Tibialis Anticus. *A. F.* Fibula. *I. T.* Joints of the Great Toe. *U.* turns up the Toe.

Extenſor Bre-
.
——21.

A. F. Os Calcis. *I.* into the Joints of the Great Toe. *U.* as the laſt.

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* This Muſcle is covered by the Flexor Digitorum Longus, a ſmall portion only diſcoverable, as ſeen in F. 8. In F. 11. the Flexor is raiſed, to ſhew the whole of the Tibialis; the Flexor Pollicis Longus, is likewiſe here ſeen at [16] behind the laſt.

Small Toes, 2 Extenſors, viz.

Longus—and Brevis.

1. Extenſor Longus Digitorum Pedis. ——18.
Situated between the Peronæal Muſcles, and the Extenſor Pollicis Longus. *A.* Faſcia, Tibia, Interoſſeal Membrane and Fibula. *I. T.* Joints of the ſmall Toes. *U.* turns up the Toes.

2. Extenſor Brevis Digitorum Pedis. ——22.
A. F. Os Calcis. *I. T.* Joints of the ſmall Toes. *U.* as the laſt.

FLEXORS, &c. OF THE TOES.

Great Toe, 2 Flexors, Abductor and Adductor, viz.

Flexor Longus Pollicis Pedis—and Flexor Brevis.

1. Flexor Longus Pollicis Pedis. P 1.—F 2. and 8. ——16.
Poſterior, deep ſeated, beneath the Soleus, on the fibular ſide of the Leg. *A. F.* Fibula. *I. T.* laſt Bone of the Great Toe. *U.* preſſes the Toe againſt the ground, in the action of leaping, or ſuſtains the Body, when the other Limb is moving forward.

2. Flexor Brevis Pollicis Pedis.
Situated in the ſole of the Foot. *A. T.* Os Calcis. *I.* internal Os Seſamoideum, and laſt Bone of the Toe. *U.* as the laſt.

3. Abductor Pollicis. ——37.
Inner ſide laſt Muſcle. *A. F.* Os Calcis. *I. T* internal Os Seſamoideum. *U.* directs the Toe from the others.

4. Adductor Pollicis.
Outer ſide of the laſt. *A. T.* Os Calcis. *I. T.* external Os Seſamoideum. *U.* directs the Toe towards the others.

Small Toes, 2 Flexors, viz.

Flexor Longus and Brevis.

1. Flexor Longus Digitorum Pedis Profundus Perforans. P 1.—F 2.—and P 8.——14 †.
Poſterior, deep ſeated, beneath the Soleus. *A. T.* and *F.* Tibia, and Interoſſeal Membrane. *I.* laſt Bones of the Toes. *U.* preſſes the Toes to the ground in ſuſtaining the Body when walking.

2. MaſſaCarnea.*
Covered by the Flexor Brevis——*A. T.* and *F.* from

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* P 1.—F 2. The Pin [38] reſts with its point on this Muſcle.

	the Os Calcis. *I.* Tendons of the Flexor Longus. *U.* to aſſiſt the Flexor Longus.
3. Lumbricales Pedis.	*A. T.* and *F.* from the Tendon of the Flexor Profundus. *I. T.* into the inſide of the firſt joint of the four leſſer Toes. *U.* to increaſe the flexion of the Toes, and to draw them inwards.
4. Flexor Brevis Digitorum Pedis Perforatus. P 1.—F 2.—38.	Situated ſole of the Foot, covered by the tendinous Faſcia.——*A.* Os Calcis. *I. T.* 2d Bones of the Toes; the Tendons perforated, through which thoſe of the Perforans paſs. *U.* aſſiſts Flexor Longus.

Muscles of the Small Toe, viz.

Abductor—Flexor—and Adductor.

1. Abductor Minimi Digiti Pedis.	Sole of the Foot externally.——*A.* Os Calcis. *I.* firſt Bone ſmall Toe.
2. Flexor Brevis Minimi Digiti Fedis.	Sole of the Foot externally.——*A.* Os Cuboides. *I.* firſt Bone ſmall Toe.
3. Adductor Minimi Digiti Pedis.	Ditto ditto ditto.
Tranſverſalis Pedis.	*A*——Metatarſal Bone o the great Toe, and Adductor Pollicis. *I.* into the Metatarſal Bone of the ſmall Toe. *U.* leſſens the capacity of the Foot.

There are ſmall external and internal Penniform Muſcles, named Interoſſeal, which need not be particularly mentioned here: they act as Abductors and Adductors.

PREPARATIONS.

HEART.

Preparation 1. *Injected. See likewise recent Heart.*

THE Ventricles and Auricles are ranked as they receive the blood in the courſe of circulation, the Aorta is firſt numbered as it iſſues from the left or poſterior Ventricle; its extreme branches ramifying through the ſyſtem, meet, by continuity of canal, the extreme branches of the Vena Cava ſuperior and inferior, which return the blood to the right or anterior heart.

1——Aorta Aſcendens.
A——Coronary Arteries of the Heart.
2——Superior part of the Arch or Curvature.
3——Aorta Deſcendens.
4——Arteriæ Carotides.
5——Subclaviæ, the left ariſing from the arch of the Aorta, the right is a branch of the Carotid.
6——Arteria Vertebralis.
7——Arteria Intercoſtalis.
8——Arteria Cæliaca.
9——Cava inferior.
10——Cava ſuperior; theſe tranſmit the Venous blood to the anterior Auricle.
B——Coronary Veins.
11——Vena Azygos.
12——Vena Subclavia Dextra.
13——Vena Subclavia Siniſtra.
14——Ductus Thoracicus.
15——Auricula Dextra, or anterior, ſive Atrium.
16——Ventriculus Dexter, or anterior.

17——Arteria Pulmonalis.
18——Venæ Pulmonales.
16——Auricula Siniſtra, ſive Atrium poſterior, the Auricle being the appendage.
20——Ventriculus Siniſter, or poſterior.
21——Trachea.
22——Œſophagus.

REFERENCES TO ARTERIAL SYSTEM.

Trunk. Preparation, No. 2.

Muſcles. (a) Trachea Arteria; (b) Æſophagus; (c) Pulmonary Artery; (29) Scalenus Poſticus; (3) Medius; ‡ Anticus; (1) Trapezius; (2) Deltoides; (10) Subſcapularis; (5†) Pectoralis Minor; (14) Biceps Cubiti; (15) Coraco Brachialis; (11) Latiſſimus Dorſi; (12) Teres Major; (3) Pectoralis Major; (23) Intercoſtales Externi; (4) ditto Interni; (§) Diaphragm; (d) Foramen of Vena Cava: (e) Exit of Œſophagus; (f) Crura of Diaphragm; (8) Iliacus Internus; (12†) Obturator Internus; (g) Veſiculæ Seminales, and Proſtate Gland; (14) Coccygæus; (i) Anterior, and (k) poſterior pillars of (l) Pouparts Ligament, between which the Abdominal ring or opening is found; (4) Pyriformis; (1) Glutæus Maximus; (3) Glutæus Minimus; (n) Tunica Vaginalis Teſtis.

Arteries. (o) Vaſa Deferentia; (A) Root of Aorta, which ſprings from the poſterior Ventricle, lying conſiderably anterior, and towards the right ſide of the Cheſt, bends obliquely upwards in an arched direction, the top of the arch being nearly in a line with the 2d Dorſal Vertebra, terminating in the Aorta Deſcendens, ſituated at the left ſide of the Dorſal Vertebra; (B) Arch of the Aorta; (C) Aorta Deſcendens, from which point it inclines to the right, gradually approximating the middle of the Spine, and lies on the middle of the laſt Dorſal Vertebra, from whence it obſerves a Vertical direction; (D) Bifurcation of the Aorta, where it divides into

Branches of Aorta in the Cheſt.

(E) the primary Iliac Arteries; (1) Carotids, on the right, this and the Subclavian are generally ſent off from one common trunk; the left ſent off from the arch by itſelf; (2) Arteria Vertebralis, the right ſent off from the Subclavian, left from the arch of the Aorta, by itſelf, between the left Carotid and left Subclavian, and does not paſs, as the right, through the Foramina of the Cervical Vertebræ; (3) Subclavia; (4) Internal Mammary, which ſends off Arteriæ Thymic, Arteria comes Nervi Phrenici, upper Pericardiac artery, Arteria Phrenicio-pericardiaca, and Ramus Muſculo-phrenicus; (5) inferior Thyroid Artery, the proper Thyroid Tracheal and branches of the Tranſverſalis Colli not ſeen; but this is ſupplied by the Cervical arteries, ſending off * Tranſverſalis Humeri; (6) Arteria Cervicalis Profunda; (7) ditto, ditto, Superficialis; (8) poſterior Clavicular Artery; (9) ſuperior intercoſtal Artery; (10) Supra Scapular Artery, or Tranſverſalis Humeri; this more frequently paſſes above the Ligament of the Scapular Notch, than under it, the Nerve always paſſes under the Ligament; (11) Trunk of the Axillary Artery; (12) Arteria Thoracica ſuperior; (13) Arteria Thoracica Longior, or great Pectoral: (14) Thoracica Humeralis, ſent off from the great pectoral in this ſubject; (15) Subſcapularis; (16) Circumflexa poſterior; (17) Ditto anterior; (18) beginning of Bracheal Artery; (19) right Bronchial Artery; (20) left Bronchial, ſeen between the Aorta and Pulmonary Artery; (21) inferior Bronchial; (22) Œſophageal Arteries; (23) inferior or Aortic Intercoſtalis.

Branches of Abdominal Aorta.

Cœliaca ſends off

(24) Right Phrenic Artery, or Diaphragmatic; (25) left Phrenic, ſometimes theſe come off, one from the Aorta, the other from Cœliac; (26) Arteria Cœliaca, ſent off from the Aorta, as it paſſes through the Crura of the Diaphragm.

Coronaria.

(27) Arteria Coronaria Ventriculi, dividing into (28) Coronaria ſuperior Ventriculi; (29) Cardiaca, and (30) Arteria Pylorica.

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* See the diſtribution of the Supra Scapular Artery from the Axillary, No. 9.

Hipatica.

(31) Trunk of Arteria Hepatica, ſending off (32) Gaſtrica Dextra Hepatica, ſending off a number of branches to be ſeen in the Abdominal Viſcera; (33) Hepatica Siniſtra; (34) Hepatica Dextra.

Branches of Splenic Artery.

(35) Trunk of Arteria Splenica, ſending off (36) Pylorica Siniſtra; (37) Pancreatica Dextra; (38) Pancreatica Siniſtra; (39) Gaſtrica Siniſtra; (40) Vaſa Brevia; (41) Arteriæ Splenico Propriæ.

Arteries of Inteſtines.

(42) Superior Meſenteric, which gives (43) Pancreaticæ; (44) Duodenalies Inferiores; (45) Colicæ Mediæ; (46) Colica Dextra; (47) Colicæ Siniſtræ; (48) Ilio-colica; (49) Meſenterica inferior, which gives (50) anterior Colica Siniſtra, dividing into 3 branches, the anterior one goingto the Sigmoid Flexure, the other 2 to the left Colon and Sigmoid Flexure; (51) ſuperior Hæmorroidal; (52) Arteriæ Capſulares, proceeding from the Renal in this ſubject; often come from the Phrenic, or from the Aorta (53) Arteriæ Renales, double in this ſubject, not uncommon, the ſuperior one is the general ſituation where the Arteries are ſingle; (54) Spermatic Artery, (preparation, No. 20.) ariſing from the Aorta; (55) Arteriæ Lumbares, on the left covered by Pſoas Muſcle, the laſt paſſing round the Criſta of the Os Ilium; (56) middle Sacral Artery.

Arteries of Pelvis.

(57) External or anterior Iliac Artery; (58) internal or poſterior Iliac, or Hypogaſtric Artery, which gives off (59), Ilio Lumbaris; (60) Lateral Sacral Arteries; (61) Umbilical Artery; (62) Lateral Artery of the brim of the Pelvis; (63) middle Hæmorroidal Artery; (64) Glutæal Artery; (65) Iſchiatic Artery; (66) common or great Pudic Artery; (67) Arteria Perinei; (68) Arteria Penis; (69) Arteria Obturatoria; (70) Femoral Artery. (71) Epigaſtric Artery; (72) Arteria Circumflexa Ileum anterior, inoſculating with Ilio Lumbaris and Lumbar Arteries; (73) Circumflexa Ilium poſterior; (74) internal Circumflex; (75) external ditto; (76) Profuuda Femoris; (77) Artery of the Spermatic Chord.

NUMBER 3. PREPARATION OF NECK AND HEAD.

Muſcles. (1) Frontalis; (19) Occipitalis; (3) Corrugator Supercilii and left ſide; (2) Orbicularis Palpebrarum on the right ſide, covering the laſt Muſcle; (9) Conſtrictor Naris; (8) Levator Labii ſuperioris proprius; (5) Zygomaticus Minor; (4) ditto Major: (6) Levator Anguli Oris; (13) Buccinator: (10) Depreſſor Anguli Oris—Platyſma Myoides; (11) Depreſſor Labii Inferioris; (12) Orbicularis Oris; (14) Maſſeter, and ſituation of Parotid Gland, ſending off (b) Parotid Duct, to perforate the Buccinator; (15) Temporalis—(c) Faſcia of Temporalis; (26) Sterno Cleido Maſtoideus; (20) Sub-maxillary Gland.

Arteries.

1 †——Common Trunk of the Carotid.

2 †——Vertebral Artery in this ſubject paſſing through the Foramina of the Vertebræ (round the Sinus of the Atlas, to enter the Cranium.) This not always the caſe; ſee No. 2.

3 †——Bifurcation of the Carotid into internal and external, this taking place at various diſtances beneath the angle of the Jaw.

4 †——Internal Carotid.

5 †——External Carotid.

6 †——Thyroid, or Laryngeal Artery.

7 †——Artery, not always preſent, going to the Pharynx.

8——Muſcular branch, going to the Sterno Cleido Maſtoideus.

9 †——Lingual Artery.

10 †——Ramus Hyoideus, 1ſt branch.

11 †——Dorſalis Linguæ, 2d ditto.

12 †——Sublingualis, 3d ditto.

13 †——Ranina, 4th ditto.

14 †——Arteria Maxillaris Externa; above this, in this ſubject the inferior Pharyngeal Artery ſeems to come off.

15 †——Arteria Palatina inferior, 1ſt branch.

16——Pharyngeal Artery, 2d ditto.

17——Arteries, ſupplying Submaxillary Gland.

18——Arteria Pterygoidea, 4th branch.

19 †——Maſſeter Inferior, 5th ditto.

20 †——Submentalis, 6th branch, diſtributed to the Muſcles between the Os Hyoideus and Lower Jaw, mounts upon the lateral anterior portions of the Chin, which it perforates to reach the gums, anaſtomoſing with the Mental Artery.

21——Faſcial, or angular Artery.

22——Superior Maſſeter.

23——Artery, going to the Platyſma Myoides; after this, the Trunk is continued forward in a tortuous manner, generally terminating in the 3 following branches: firſt, (24) Inferior Coronary, uſually paſſing beneath the Depreſſor Anguli Oris. Second. (25) Superior Coronary going likewiſe to the Noſe. Third, (26) Inferior naſal, anaſtomoſing with the Infra Orbitar Branch of the Maxillary. This on the other ſide given off from the ſuperior Coronary.

27——Occipital Artery ſends a branch through the Jugular Foramen to the Dura Mater, and is diſtributed in conſiderable branches, to the Sterno Cleido Maſtoideus, Occiput, Poſterior Muſcles of the Neck, and Anoſtomoſes, with the Vertebral, Poſterior Temporal, and Tranſverſalis Colli.

28——Poſterior Auris of the left ſide.

29——Poſterior Temporal wanting in this ſide;—on the right ſide, in this ſublect, it forms a conſiderable branch of the Occipital, and ſends off the poſterior Auris.

30——Temporal. 31—Tranſverſalis Faciei, often, as in this ſubject, two branches.

32——Anterior Temporal. 33—Middle Temporal.

34——Internal Maxillary Artery.

35——Common Trunk of Inferior Maxillary, Pterygoidean, and external, or poſterior deep ſeated Temporal.

36——Inferior Maxillary entering the Jaw.

37——Pterygoidean, going to the Muſcles.

38——External, or poſterior deep ſeated Temporal.

39——Middle, or great Artery of the Dura Mater.

40——Internal, or anterior deep ſeated Temporal.

41——Upper Palatine Artery.

42——Alveolar Artery.

43——Superior Maxillary, which becomes

43——Infra Orbitar.

44——Opthalmic branch of the internal Carotid.

45——Artery of the Lacrymal Gland, tranſmitted from the internal Carotid through the ſuperior Orbitar Fiſſure.

46——Another ſent to the ſame Gland, from the internal Maxillary, paſſing through the inferior Orbitar Fiſſure.

47——Twigs going to the Muſcles of tne Eye from the root of the Ophthalmic.

48——Poſterior Ethmoidal Twig.

49——Anterior ditto ditto.

50——Small Superciliary branch, and

51——Great ditto ditto, both of theſe anaſtomoſing with the anterior Temporal.

52——Superior naſal branch of Opthalmic or internal Carotid, anaſtomoſing with the inferior naſal of external Carotid.

53——Common Trunk of 3d branch of 5th Nerve, ſending off (54) ſmall, or ſuperior Lingual, and (55) inferior Maxillary, which, after ſupplying the Teeth, becomes Mental; (56) Ninth, or inferior proper Lingual Nerve; (57) Par-vagum; (58) firſt Cervical; (2 †) ſecond Cervical; (59) third Cervical; (60) fourth Cervical, diſtributed to the Sterno Cleido Maſtoideus;—theſe two ſeen uniting to form the Phrenic.

References to Arm, No. 8.

The diſtribution of Veſſels in this Arm frequently occurs; in ſome caſes, the branches ſent off from the

Subclavian and Axillary Arteries are diſtinct ſeparate veſſels; in others, ſeveral branches ſpring from one common Trunk,——Nature aims at one great purpoſe, which is equally effected either way,—and we often, as in this arm, find 2 branches, where one performs the office in other ſubjects. The relative ſituation of the roots of the Arteries, with reſpect to the Coracoid proceſs, is not always the ſame in all ſubjects, an inſtance of which is ſeen here.

Muſcles. (1) Trapezius; (2) Deltoid; (3) Pectoralis Major; (5 †) Pectoralis Minor; (10) Subſcapularis; (22) Supra-ſpinatus; (7) Infra-ſpinatus; (5) Teres Minor; (13) Serratus Major Anticus; (11) Latiſſimus Dorſi; (12) Teres Major; (15) Coraco Brachialis; (13 †) Biceps Longus; (14) ditto Brevis; (9) Brachialis Internus; (16) Triceps Longus; (4) Triceps Magnus; (17) ditto Brevis, or Brachialis Externus; (22†) Anconæus; (13†) Supinator Longus; (14) Extenſor Radialis Longior; (15 †) ditto Brevior; (22 ‡) Pronator Teres; (23) Flexor Carpi Radialis; (26) ditto Ulnaris; (25) Flexor Sublimis; (5) ditto Profundus; (†) Flexor Pollicis Longus;*(4) Pronator Quadratus; (30) Abductor Pollicis; (31) Flexor Brevis Pollicis; (32) Adductor Pollicis; (19) Abductor Indicis; (20) Extenſor Digitorum Communis; (24 †) Extenſor Ulnaris; (16) Extenſor Oſſis Metacarpi Pollicis; (17) ditto Primi Internodii; (18) ditto Secundi; (24) Palmaris Longus.

Arteries. (1) Common Trunk of the right Carotid and Subclavian; (1†) branch of the right Carotid; (2) root of Subclavian. Here the Vertebral, Cervical, and Supra-ſcapular Arteries are ſent off from one common Trunk; (3) Vertebral; (4) common Trunk of (5) Cervicalis Profunda; and (6) ditto Superficialis; (7) Trunk of Supraſcapular Artery, ſending off (8) Superficial Cervical Branches; (9) Internal Mammary, giving off (10) Arteriæ Thymicæ; (11) Upper Pericardiac; (12) Comes Nervi Phrenici; (14) Phrenico Pericardiaca; (14) Ramus Muſculo Phrenicus; (15) Inferior Thyroid; (19)

upper intercoſtal (21). Axillary Artery, ſee Preparation 6. where Supraſcapular Artery (7) is ſent off from the Axillary ; (22) Thoracica Superior * ; (23) ditto Longior † ; (24) ditto Humeraria ‡ ; (25) ditto Axillaris ; (26) Subſcapular ; (27) Poſterior Circumflex ; (28) Anterior ditto ; (29) Brachial Artery ; (30) Profunda Humeri ſuperior ; (31) ditto ditto inferior ; (32) Ramus Anaſtomoticus Major ; (33) Recurrens Radialis Anterior ; (34) Recurrens Ulnaris Anterior ; (35) ditto ditto Poſterior ; (36) ditto ditto Interoſſea ; (37) Radial Artery ; (38) Superficialis Volæ ; (39) Dorſalis Carpi ; (40) ditto Pollicis ; (41) Radialis Indicis ; (42) Magna Pollicis ; (43) Palmaris Profunda ; (44) Ulnar Artery ; (45) Dorſalis Ulnaris ; (46) ditto Radialis ; (47) Interoſſea ; (48) common Trunk of Carpal and Metacarpal Arteries ; (49) Metacarpal Artery.

Nerves. (50) Perforans Caſſeri ; (51) Median Nerve ; (52) Cutaneous ; (53) Ulnar Nerve ; (54) Spiral Nerve.

REFERENCES TO INFERIOR EXTREMITY,
No. 7.

Muſcles. (1) Glutæus Maximus ; (2) Medius ; (3) Ditto Minimus ; (4) Pyriformis ; (5) Gemini ; (6) Quadratus Femoris ; (8) Iliacus Internus ; (9) Pſoas Magnus ; (12†) Obturator Internus ; (8†) Sartorius ; (14†) Rectus Cruris ; (7) Faſcialis ; (15) Vaſtus Externus ; (16) ditto Internus ; (35) Crurœus ; (10) Pectinalis ; (10†) Adductor Brevis ; (11*) ditto Longus ; (13) ditto Magnus ; (12) Gracialis ; (39) Poplitæus ; (19) Tibialis Anticus ; (21) Extenſor Pollicis Longus ; (18) Extenſor Digitorum Communis ; (4†) Biceps Cruris , (5§) Semitendinoſus ; (6†) Semimembranoſus ; (12)

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* In this preparation, as frequently happens, there are 2 Arteries, P 5. F 1. [a] branch going to the Thorax ; [42] branch ſent to the Pectoralis Major.

† Likewiſe 2 Arteries, not unuſual, the one paſſing above, the other beneath the margin of the Pectoralis Minor, to reach the Pectoralis Major.

‡ The Thoracica Longior and Humeraria ſent off from one common Trunk, not unſual.

Gemellus Externus; (‡) Solæus, or Gemellus Internus; (17) Peroneus Longus; (20) ditto Brevis; (14‡) Flexor Digitorum Longus; (33) Tibialis Poſticus; (15) Flexor Longus Pollicis.

Arteries. (1) Primary Iliac; (2) Bifurcation of Iliac Artery; (3) External or anterior Iliac; (4) Internal or poſterior Iliac; (5) common Trunk of (6) Ilio Lumbaris, and (7) Lateral Sacral Arteries; (8) Lateral Artery of the brim of the Pelvis; (9) ſituation of Umbilical Artery, gives Twigs to the Bladder; (10) upper Hæmorroidal, ſee Preparation, No. 2.; (11) Middle Hæmorrhoidal; (12) Glutæal Artery; (13) Sciatic Artery; (14) common or great Pudic; (15) Arteria Penis; (16) Arteria Perinei; (17) Obturator Artery; (18) Femoral Artery; (19) Epigaſtric Artery; (20) Circumflexa Ilium; (21) Profunda; (22) External Circumflex; (23) Internal ditto; (24) Perforans Prima; (25) ditto Secunda; (26) ditto Tertia; (2) ditto Quarto; (28) Poplitæal Artery; (29) Superior External Articular Artery. (30) ditto middle; (31) Inferior Internal Articular Artery; (32) Inferior External ditto. (33) Anterior Tibial, ſee this Artery paſſing 3 inches above the Poſterior Tibial and Peroneal Arteries, lying between the bone and Poplitæal Muſcle; (34) Recurrent Artery; (35) Internal Malleolar; (36) ditto External; (37) Tarſal Artery; (38) Metatarſal ditto; (39) Dorſalis Externa Halucis; (40) Tibialis Poſtica; (41) internal Plantar; (42) External ditto; (43) Peroneal; (44) Poſterior branch of ditto.

FINIS.

EDINBURGH,
PRINTED BY J. MOIR,
PATERSON'S COURT.